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**Original Communications.**

**COMMUNUTED FRACTURE OF THE SKULL, FOLLOWED BY METASTATIC PNEUMONIA AND GANGRENE.**

BY J. W. BURNS, M.D., LAKE CRYSTAL, MINN.

Thomas M., a tramp, aged about sixty years, was struck on the evening of April 26, 1876, with a heavy club on the left temporal region, and remained out doors during the entire night, which was quite cold. The following morning, when first seen, he presented the following symptoms: The scalp over the left temporal fossa was badly contused and ecchymosed, and a great degree of swelling had taken place. The swelling and ecchymosis extended to both orbital regions, and the eyes were both closed, so that I found it impossible to open them. The countenance was of a deadly pallor; respirations feeble and noiseless; pulse weak, intermittent, and somewhat frequent; pupils contracted, but responded to light; deglutition performed with difficulty; mind in a state of abeyance, but confused; the patient answering questions with great difficulty, and only in monosyllables; bladder and bowels acted normally, paralysis was not manifest, although the

voluntary muscles were much weakened. The case was diagnosed as concussion of the brain, with fracture and depression of the skull.

The patient received the usual treatment adopted in concussion of the brain, but nothing like full reaction occurred; still the case gradually improved up to the end of the first week.

May 4th. Discovered a slight paralysis of the right side, and about the same time the pulse became fuller and slower, the pupils more dilated, the breathing labored and slower; deglutition performed with greater difficulty, and the urine and feces were passed involuntarily.

These symptoms gradually increased in severity until the 7th and 8th, when severe convulsions occurred. On the appearance of these the patient was given active mercurial cathartics, and put upon 5 grs. of iodide of potassium and 30 drops of fl. ex. ergot, four times a day. The case now began to improve, and in the course of a week the paralysis had entirely disappeared and the bodily functions were performed naturally; the mind grew stronger, but the pulse continued slow and full; the respirations slow but performed easily; the pupils were normal. No inflammatory action has been manifested in the case.

May 24th. The patient is able to walk a mile or two every day, has a good appetite, and is improving mentally and physically; the pulse and respirations are preternaturally slow, the mind weak and somewhat confused by spells.

At no time during the treatment had the patient complained of severe pain in the head; he occasionally said that it was "sore." At the seat of injury a fracture could be distinctly traced, below the temporal ridge, extending backwards and upwards through the parietal bone towards the sagittal suture. The depression in the temporal fossa was well marked, but as the patient presented no symptoms that warranted surgical interference, he was discharged and left the village about June 1st. I cannot obtain a history of the case from the 1st to the 16th inst.

On the latter date he was found twenty miles from here and taken to Mankato, where he was attended by the county phy-

sician, who found him in an insensible condition, and dying from some disease of the lungs. Death occurred on the 20th inst.

From the attending physician I learn that he remained in a semi-comatose condition up to the time of death; that the pulse and respirations were greatly accelerated; that urine and feces were passed involuntarily, and that he expectorated large quantities of a brownish fetid material.

A *post mortem* examination of the head, (at which I was not present,) was made on the day of death, and revealed a comminuted fracture in the left temporal fossa, involving the great wing of the sphenoid, a portion of the frontal, the squamous portion of the temporal and the parietal below the temporal ridge. The fracture covered a space  $1\frac{1}{2}$  by  $2\frac{1}{4}$  inches. Besides this there was a fracture five inches in length commencing in the frontal bone below the temporal ridge, and extending backwards and upwards to the sagittal suture. The greatest depression was  $\frac{5}{16}$  of an inch, and occurred in the parietal bone below the temporal ridge. The under surface of the fracture was comparatively smooth, except at one or two points which had evidently punctured the membranes and caused an effusion of serum.

A slight sanguineous effusion had taken place between the dura mater and skull, and also in the substance of the brain, which was slightly softened in the immediate vicinity of the greatest depression. No effusion had occurred in the ventricles, and the remaining portion of the brain appeared normal. Examination of the thorax revealed three bluish-green moist sloughs in the parenchyma of the upper lobe of the right lung. They varied in size from a hickory-nut to a hen's egg, and were not abruptly limited, but merged into the hepatized parenchyma. They contained a greenish-black stinking substance, saturated with blackish-gray ichor.

Mortification had reached the pleura at one point, and its surface was bathed with this same greenish-black substance. Extensive adhesions were present in the upper part of the pleura. A bronchus had opened into one of the sloughs, hence the copious-brownish expectoration previous to death.

The remaining slough was circumscribed. At one point in the middle lobe, a dark, yellowish deposit had occurred on the pleura, and its surfaces were somewhat adherent, and beneath was a rounded nodular prominence. A similar prominence was found in the left lung, just beneath the pleura, but with less deposits. The remaining portion of the right lung was bathed in a reddish-gray matter, and it could be expressed in large quantities from its cut surface, which was of a grayish-yellow color. The tissues were tender and easily torn; a slight granular appearance was visible. The left lung was in a hyperemic condition. This, with the condition described above, were the only changes noticed. The heart and abdominal viscera were all in a normal condition.

A point of considerable interest in the case was the amount of depression without symptoms of compression during the first week. I attribute the paralysis and other symptoms of compression that occurred a week or ten days after the injury to effusion of serum from puncture of the membranes, and the sanguineous effusion in the substance of the brain, and not to direct compression by the bone.

Another point of interest is the lung difficulty. Was the pneumonia metastatic, or did it originate from exposure and the debilitated condition of the patient? The evidence I think is in favor of the former. Abscesses and gangrene are very rare as a sequel of pneumonia, even in old and debilitated cases, while hæmorrhagic infarction following injuries of the skull where the diploe has been penetrated is of a frequent occurrence, and is due to the gaping of the walls of the veins, which being adherent to the tables of the skull, are prevented from closing, so that entrance of coagula into them is facilitated.

Hæmorrhagic infarction had certainly taken place at two points, as shown by the dark yellowish deposit on the surface of the pleura, adhesion of its surfaces and the rounded, nodular prominence immediately beneath. That the gangrenous abscesses or sloughs were at first simple infarctions I have no doubt, but owing to extravasation and compression of the capillaries, secondary coagula formed in the bronchial arteries



and nutritive vessels, thus withholding nutritive material from the infarction and causing its death.

The principle upon which metastatic infarctions occur caused by emboli from sanious or suppurating surfaces is too well understood by the profession to call for any remarks.

That such infarction occurred in this case, and that abscess, gangrene and pneumonia followed is, I think, well established by the history and *post mortem*. The patient evidently died from metastatic disease of the lungs, induced or caused by the injury of the skull and brain.

I will not open the question whether an operation was advisable or not during the time I treated the case, but leave it for each surgeon to decide for himself.

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## ON THE TREATMENT OF EMPYEMA BY ANTISEPTIC INJECTIONS AND DRAINAGE TUBES.

By W. H. VITTUM, M.D., BARABOO, WIS.

Since the introduction of antiseptic surgery by Lister, the treatment of abscesses and suppurating sores of all descriptions has been far more satisfactory than formerly. The profession, with a few exceptions, at once saw and appreciated the advantages to be derived from a system of treatment which should exclude from the cavity of an abscess, or the surface of an ulcer, all those vegetable and animal sources of infection which are supposed to exercise so unfavorable an influence upon the healing process.

In a short time abscesses in nearly all parts of the body were treated by injections of carbolic acid. The pleural cavity was long an exception to this rule, and collections of pus in this situation were merely evacuated, or at most treated with slightly stimulant injections. Indeed, so recently has the antiseptic method of treatment been adopted, that most of our standard text books are utterly silent in regard to it. So recent a writer as Ashhurst says: "Boinet has recommended the injection of iodine into an empyemic cavity, and in one case in which I

saw this method employed, it certainly produced no undue irritation. I believe, however, that the advantages which were anticipated from this mode of treatment have been in most instances not fully realized." There is, however, neither here nor elsewhere in his book any mention in this connection of antiseptics strictly so called. Gross and Holmes, both in their old and new works, Bryant and Gant, of England, are all silent in regard to this mode of treatment.

Prof. F. H. Hamilton says, "abscesses resulting from the presence of foreign bodies in the cavity of the chest should occasionally be thoroughly syringed out with tepid water, or with such disinfectants as carbolic acid, chloride of sodium, or bromine." Why these most beneficial injections should be limited to those cases having a traumatic origin would seem incomprehensible.

In the Medical and Surgical History of the War of the Rebellion, page 581, I find the following commentary on the foregoing extract: "Surgeon F. H. Hamilton advised, in the cases complicated by the presence of foreign bodies in the cavity of the chest, thorough syringing 'with such disinfectants as carbolic acid, chloride of sodium, or bromine,' but no evidence of their efficacy is produced."

Of course no therapeutic measure can be rightly judged when it is applied only to those cases over whose complications it can, in the very nature of things, have no control.

In order to successfully disinfect the pleural cavity, drainage tubes of one form or another will have to be used. Prof. Gross throws the weight of his great learning and experience against the employment of this measure. He says: "The use of drainage tubes has lately been recommended under such circumstances, but the treatment, it seems to me, should not be encouraged, as it is both harsh and dangerous." These are, however, the sentiments of one of the opposers of antiseptic surgery in general, and as such need have no great weight with us; for if the beneficial effects of antiseptics are denied, there is no indication for either injections or drainage tubes.

Prof. E. Andrews, of Chicago, was probably the first among

the surgeons of the west to propose injections of carbolic acid into an empyemic cavity. His first case occurred in June, 1872, and was reported in the *Chicago Medical Examiner* for December of that year, under the title, "Antiseptic Injections and Drainage Tubes in Empyema." Dr. Andrews says: "I conceived the idea because patients fared so badly by old methods, and because I found Lister's plan so successful in arresting suppuration in other parts of the body that I thought it might do equally well in the pleura."

Dr. Fraentzel, of Munich, first saw and used this method of treatment "in the beginning of the year 1873." I saw the operation performed at the Charity Hospital in New Orleans by the late Prof. Hawthorn, during the winter of 1874-5. I am told that it is now the regular treatment for empyema in New York city. I presume this is the case with the principal cities of the United States; of New Orleans and Chicago I can speak with certainty.

After this brief sketch of the history of antiseptic injections into the pleural cavity, let us glance for a moment at some of the details of the treatment. All of the authorities agree that the external opening should be a large one for the free exit of the pus. Fraentzel, in his article on Pleuritis, in the 4th volume of Ziemssen's cyclopedia gives an elaborate account of what he terms the "radical operation" for empyema. His plan is to have a silver canula large enough to admit two Nélaton catheters at once, kept constantly in the wound. The cleansing and disinfecting the cavity is carried on by a force pump or syringe attached to one of these catheters and a suction pump to the other. The catheters are then passed together through the cannula and pressed deep down into the cavity of the chest, and the work of injection and withdrawal of the fluid accomplished by these means. The cannula is to be made of silver and has a collar which must accurately fit the outside of the patient's chest. Of course we living in the country, or even in large towns, can hardly have at our command the means necessary to accomplish this. But let us see whether a more simple contrivance will not answer the purpose. Prof. Andrews uses a simple rubber tube opening

through a button of gutta percha. Prof. Hawthorn used a common flexible catheter for his injections, and maintained it *in situ* by means of adhesive strips. In a case which occurred in the practice of Dr. M. M. Davis and myself, we used a common flexible catheter brought through a circular disk of leather and sewed into the latter.

In regard to the fluid to be injected, there is some difference of opinion. Most surgeons think that a weak solution of carbolic acid, say two or three per cent., should be used at first, to be increased afterward if necessary. Dr. Fraentzel immediately after the operation uses a solution of common salt, and afterward some disinfectant. I quote from page 720, volume 4, of Ziemssen's cyclopedia: "After a few days, even if there is no fever, and the contents of the pleural sac are not fetid, we should replace the solution of common salt with compound tincture of iodine diluted with from twenty to fifty times its bulk of water, or we may use a solution of permanganate of potash, (one grain to the ounce,) or a solution of carbolic acid, (two grains to the ounce.)"

Prof. Hawthorn used a mixture of pure carbolic acid and water, (one part to six.) I saw him do this twice in patients enfeebled by the disease, and yet no injurious effects followed. I quote from a letter from this gentleman dated Dec. 6th, 1875: "I treated a child in private practice last spring with capital results. The child was three years old; had empyema; was aspirated; the fluid reaccumulated; a free incision was made, the chest washed out, a weak solution injected at first, but this failing, in the end a mixture of pure carbolic acid and water, (one part in six,) was used with effect of arresting suppuration. The mixture took the cuticle off the chest wall wherever it touched, but caused no ill symptoms within. The lung finally expanded and the child is now perfectly well." In the case already alluded to, occurring in the practice of Dr. Davis and myself, a ten per cent. mixture was used. The only unpleasant result was considerable dizziness, which, however, soon passed off, leaving no ill effects.

There is a difference of opinion as to whether any of the antiseptic fluid should be left in the cavity of the chest.

Fraentzel says the cavity should be completely emptied at each dressing. Prof. Hawthorn left some of the fluid from dressing to dressing. The latter plan was followed by Dr. Davis and myself. The pleura is probably so thickened by inflammation that no danger of absorption exists, and for a time, at least, the continuous action of the antiseptic can result in nothing but good.

It may not be amiss here to give a short account of the case which occurred to Dr. Davis and the writer, and which will show the general plan of treatment. Miss L. B., aged 22, on the 29th of Dec., 1869, had a severe attack of pleuritis which culminated in a purulent effusion. In April, 1870, the chest was punctured in the tenth intercostal space and injected with tincture of iodine, with no result except the establishment of a fistula. At the time when the patient came into our care she could not move without being thrown into a violent fit of coughing. The daily discharge of pus was from six to twelve ounces. She was much emaciated, and notwithstanding her excellent constitution, which had so long resisted this fearful drainage, was slowly sinking. The menses had been absent since the first attack of pleuritis. Auscultation gave no sound over the left side of the chest, with the exception of a little space near the root of the lung, where bronchial breathing could be heard. The lung was evidently collapsed, and judging from the long continuance of effusion, most likely bound down by adhesions. The patient expectorated pus freely, showing a fistulous opening through the lung, which converted the case really into one of pyopneumothorax. I may remark in passing that this fistula closed in a few weeks from the date of operation. The patient had had a variety of treatment from different physicians, but notwithstanding this, had been unable to walk for three years and a half. We found a lateral curvature of the spine, resulting from her habitually sitting in a constrained position. There was also extreme deformity of the fingers and toes, the former being clubbed to a remarkable extent. On the 19th of Oct., 1875, we made a free incision into the pleural cavity in the site of the fistula and drew off twenty-four ounces of pus. We then introduced

a drainage tube and washed out the cavity with tepid water. A mixture of carbolic acid and water, (one part in ten,) was then injected. The reduction in the amount of discharge was immediate and marked, hardly an ounce and a half of pus making its appearance during the twenty-four hours following the operation. This washing and injecting was repeated daily (varying the strength of the antiseptic mixture from time to time,) until Dec. 12th, when salicylic acid was substituted for the carbolic wash. During the whole time tonics and stimulants were freely administered. About Nov. 25th an attack of malarial fever supervened, which greatly augmented the amount of pus secreted. The fever, however, readily yielding to the usual remedies, the discharge at once subsided to its former quantity, and the patient has since then continued constantly to improve. On the 16th of November the menses appeared for the first time in nearly six years and have remained regular ever since. At the present time the discharge is virtually stopped. The cavity has a capacity of only four ounces and is steadily diminishing in size. Roughened and prolonged breathing can be heard over the upper part of the chest in front and over nearly the whole thoracic surface posteriorly, showing that the lung has, at least in part, re-expanded. The patient is strong, has a good appetite, and is able to take long walks in the open air.

In conclusion it may be well to give the results of such cases treated by antiseptic injections as I have been able to collect.

Prof. Andrews says, in a private letter: "I have tried it," (meaning this mode of treatment,) "in about six cases, and without a single failure, or a single bad symptom." Two cases that I saw treated at the Charity Hospital, in New Orleans, I understand to have recovered completely. These, with the case already quoted from Prof. Hawthorn's letter, make three cases for that gentleman. A case was related to me by Dr. C. Gapen which he treated while house surgeon of Cook County Hospital, in Chicago. The result was a perfect cure. Adding to these the case treated by Dr. Davis and the writer, and we have eleven cases with as many recoveries. Of

course this remarkable success will not always follow the treatment, as will be shown by a statement of ten cases treated by Dr. Fraentzel. In ten cases he had five complete recoveries. The deaths in several instances, however, resulted from other causes than such as could be attributed in any way to the operation or after treatment. I shall take the liberty to quote at length his statement of these cases.

"Since the first case that I saw treated in this way in 1873, I have had the radical operation in eleven cases with purulent effusions, following the same principles both with regard to the operation and the after treatment. Complete recovery ensued in five. A sixth, in whose case the cannula had been removed somewhat too soon, and on account of whose foolish resistance, the strict after treatment had been interfered with, was dismissed with an incompletely healed thoracic fistula. He was afterwards for five months entirely without medical supervision, and was at last returned to the *Charité* with amyloid degeneration of the liver, spleen, and kidneys, and died there a few weeks ago. Four of those who had been operated upon died; one of ichorization of the pleural cavity with severe tubercular pleuritis and circumscribed caseous deposits in both lungs; another, who, at the time of the operation, was suffering from amyloid degeneration of the kidneys, and had a thoracic fistula, and for whom the radical operation with resection of a piece of rib, had been performed, died of secondary peritonitis; a third, who had been attacked with purulent pleuritis, as he was recovering from a severe form of typhoid, succumbed to an attack of pneumonia in the lower lobe of the uncompressed lung, which had probably arisen in consequence of catching cold during the operation; and finally the fourth patient, who in the course of a caseous pneumonia had become the victim of pyopneumothorax, and who had not been operated upon till some months later, when the purulent effusion began to increase considerably, sank from dysentery which set in the day after the operation, and which was at that time endemic in the hospital. An eleventh case was operated upon not quite a fortnight ago, and gives hope of recovery. This was a case in which an extensive



purulent effusion supervened as an attack of pleuro-pneumonia, and after twice puncturing, re-accumulated in a very short time."

Dr. Fraentzel insists strenuously on his particular after-treatment, antiseptic injections and suitable drainage. These cases, ten of Dr. F.'s, and eleven before recited, give us twenty-one cases, with four deaths. At least two of these deaths cannot be ascribed to the operation, or even to the pre-existing empyema.

This record will speak for itself, especially when it is taken into consideration that the cases of the German professor occurred in a hospital where probably the opportunities for securing a good supply of fresh air, etc., were not nearly so great as they usually are in private practice.

The extreme simplicity of the operation and the utter harmlessness of judiciously employed antiseptic injections, will be strong reasons for the general adoption of this method of treating empyema.

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### SALICYLIC ACID.

By DANIEL T. NELSON, M.D.,

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The following cases, except the last, were treated in the Mercy Hospital, and the report is made from the carefully kept records of Dr. Fred. C. Schaefer, the interne in the medical wards.

CASE I. *Intermittent Fever.* H. E., a locksmith, male, German, single; admitted to hospital May 4, 1876, 4 P. M., discharged May 18, 1876. Was taken sick in Memphis, Tenn., about two weeks ago with chills and fever. Paroxysms recur every second day; last at 5 P. M. yesterday. Temperature 99°, pulse 80, skin dry, urine scanty and dark colored, lips covered with fever sores, (herpes,) tongue heavily coated, yellowish-brown color, appetite poor, thirsty, some cough. Had a dose of magnesia sulphate on entering. Bowels moved freely at 10

p. m. Acid salicylic 3j. in gr. x. doses ordered to be taken daily between paroxysms.

May 5th, 8 A. M. Pulse 72, temperature 99°, resp. 22. Has headache in frontal region, coughs considerably, bowels moved this morning, no appetite, sweat freely last night. Had a chill at 5 P. M., lasting 1½ hours, followed by high fever.

May 6th, 8 A. M. Had a dark-colored stool this morning, tongue still coated, head aches, pulse 92, skin moist, temperature 98½°, has ringing in the ears. Ordered acid salicylic gr. xv. four times a day. Noon—pulse 84, temperature 98½°, appetite returning, stools yellowish.

May 7th, 8 A. M. Pulse 84, full and moderately firm, temperature 98½°. 4:30 P. M.—having a chill; temperature during chill, 101°, in axilla. Give acid salicylic gr. x. every hour till bedtime after “fever” returns.

May 8th, A. M. Much better, pulse 84, temperature 98½°, appetite good, feels a little “sore” in stomach. Ordered acid salicylic gr. x. every two hours to-day.

May 9th. Is walking about; “feels good;” acid salicylic gr. x. three times to-day.

May 10th. Still improving; pulse 4 P. M., sitting, 65.

May 11th. Convalescent; acid salicylic gr. x. three times to-day.

May 12th. Took acid twice to-day.

May 13th. Had a chill 10:30 A. M., lasting half an hour. Has pain in knees and elbow joints. Ordered acid salicylic gr. x. every three hours.

May 14th. Better.

May 15th. Had a chill 10 A. M., lasting nearly half an hour. The supply of salicylic being exhausted, quiniæ sulph. gr. v. was given every four hours.

May 16th. Resumed salicylic acid, half drachm daily. Pulse 96; appetite fair; rested better last night; stools yellowish.

May 17th. Slept poorly last night; dizzy all the time; appetite good; walks about the ward; pulse 72; temperature 98½°; takes acid salicylic gr. x. three times to-day.

May 18th. Convalescent; discharged. Visited hospital May

20th; no return of chills; has regained strength. Took during illness 3 ix. of salicylic acid, and gr. xv. of quinine.

CASE II. *Intermittent Fever*. T. M., admitted May 23, 1876, 6 P. M., discharged May 29, 1876. Male; age 35; boiler maker. Has been unwell some nine weeks; had an attack of "chills and fever," lasting some five weeks at beginning of illness. Chill came every two to four days; got some better. Chills returned ten days ago. Has had a chill every evening for a week; chill lasts from half to two hours; last chill yesterday, 8 P. M. Temperature  $99\frac{1}{2}^{\circ}$ , pulse 98, respiration 20, urine abundant but dark in color; tongue dry in center, brown coat on either side; appetite poor; thirst great. *Treatment*.—6 P. M., acid salicylic gr. x. every hour till bedtime.

May 24th, 8:45 A. M. Pulse 84, moderately full; respiration 20, temperature  $98\frac{1}{2}^{\circ}$ . Took 30 grs. last night before bedtime. Had no chill; slept well; is much refreshed. Bowels moved before breakfast; did not observe color of stool; appetite improving.

May 25th, 8:30 A. M. Pulse 84, respiration 20, temperature  $98\frac{1}{2}^{\circ}$ . Had no chill last night. Took five ten grain doses during the day, yesterday; last dose 5 P. M. Tongue clearing; appetite improving; skin natural; urine normal. Continue acid, five doses of ten grains.

May 26th, 9 A. M. Pulse 88, respiration 22, temperature  $98\frac{1}{2}^{\circ}$ . Tongue a little coated; skin natural; no chill; took 50 grains yesterday. Continue acid, ten grains three times a day.

May 27th. Convalescent. Took four drachms acid.

CASE III. *Intermittent Fever, with Diphtheria*. A. W., admitted May 2, 1876, age 20; female. Taken sick with sore throat a week ago; slight cough; has a chill twice a day. Temperature  $104^{\circ}$ , pulse 120; skin dry and hot; tongue brown coat; tonsils much inflamed; opens the mouth with great difficulty. Had quinae sulph. gr. iv. every four hours, and for an external application a solution of plumb. acet.

May 3d, A. M. Neck still much swollen; and throat very sore, but opens mouth more easily. Took hydrarg. chld. mit. gr. iij. with bismuth. subnit. gr. ij. last night. Bowels moved freely; stools dark brown; had a chill this morning, 5:30 A. M.

P. M. Ordered acid salicylic gr. x. every hour, to use 3j. daily.

May 4th, A. M. Is much improved; temperature 102°; pulse 96; had a chill last night at 10 P. M. Continue acid. P. M. Temperature 101°, pulse 92; throat much better.

May 5th, A. M. Temperature 101°, pulse 96; throat still sore; appetite improving; had a chill at 10 P. M. last night. Continue acid 3j. daily.

May 6th, 8 A. M. Slept well last night; had prolonged feeling of coldness this morning, lasting two hours; skin now warm and moist; temperature 99°; pulse 84; respiration 22; soreness in throat diminishing; has some ringing in ears. To take 3 ss. acid to-day. 3 P. M. Had a "chill" for half an hour; has no ringing in ears; temperature 99½°; knees cold.

May 7th, 8 A. M. Improving; walks about the ward.

May 8th. Convalescent; left. Has taken 3 iv. salicylic acid during illness.

May 14th. Returned; throat much swollen again; very painful; had on entering a gargle of potass. chlorat, tr. belladonæ and acid. tannic., which gave some relief.

May 15th, 8 A. M. Considerable inflammation in fauces, with small diphtheritic patches on tonsils; has great pain in right ear. Prescribed cinchonidiæ sulph. gr. v. three times a day; continue gargle.

May 16th, 8 A. M. Awake all night with pain in ear; continue local treatment; apply solution of morphia to ear; acid. salicylic. 3j. daily.

May 17th, 8 A. M. Earache gone; throat better. 3 P. M. Is feeling much better; can swallow more easily; diphtheritic patches gone.

May 18th, A. M. Very much better; slept better; take gr. x. acid every three hours.

May 19th, 5 P. M. Feeling very cold, though a very warm day; has a shawl closely wrapped about neck and shoulders. 11:30 P. M. In a cold, collapsed state; body covered with a cold perspiration; knees and elbows *very* cold. Ordered ammoniæ carb. internally for stimulant.

May 20th, 11 A. M. Extremities feel very cold to patient;

temperature, popliteal  $96\frac{2}{3}^{\circ}$ , axillary  $99\frac{3}{10}^{\circ}$ ; patellæ cold; hands cool; pulse 84, good volume.

May 21st, A. M. Sitting up; takes two doses, ten grains each, of acid.

May 22d. Convalescent; has taken 3 ijss. acid since relapse.

CASE IV. *Spanæmia, with Neuralgia.* B. G., admitted April 7th, discharged May 8th, 1876; aged 20; female; house maid. Has had backache and headache for about a week; bowels constipated; menses absent five months; has had menses but three times a year for four years; leucorrhœa at times, not now. No dysmenorrhœa; nervous; temperature  $100^{\circ}$ ; pulse 84, full; respiration 18; tongue considerably coated; stomach irritable; has a mitral murmur, probably not organic. *Treatment.*—At first a mixture containing carbolic acid., tr. gelsem, and tr. opii. camph. was used for the irritable stomach, and pills of cinchonidia gr. ij. each, with tr. iron and nitro-mur. acid in mixture for the spanæmia. Then when severe neuralgic pains came on, chiefly in the supraorbital and otic branches of the fifth, recurring periodically though irregularly, cinchonidia in five grain doses was given in the interval of the pain (15 grs. in 24 hours). Temporary improvement. The neuralgia returning, and severe, quinine, gr. 15 in 24 hours in the intervals of the pain was tried. Better results, but still the pain returns, and at times as severe as ever.

May 4th, A. M. Pains very severe; ordered acid. salicylic. gr. x. every two hours.

May 5th, A. M. Pains return only occasionally, and not as severe; pulse 84, temperature  $98\frac{1}{2}^{\circ}$ .

May 6th, A. M. Pulse 78, respiration 22, temperature  $98\frac{1}{2}^{\circ}$ , bowels natural, appetite good. Acid, gr. x. every three hours.

May 7th. Pain returned at 4 P. M. Take acid gr. x. every two hours.

May 8th. Is much better. Left the hospital with a prescription for salicylic acid, and the injunction to continue it. Took  $3\frac{1}{2}$  drachms of the acid. The patient left the hospital sooner than we could have wished, but the acid certainly con-

trolled the pains better than any of the remedies used, so long as she was under observation.

CASE V. *Acute Rheumatism with Syphilis.*

Admitted April 12th, discharged May 8th, 1876. F. L. A., age 29; female. During past four weeks has had pain in knees, ankles, shoulders, elbow and wrist, gradually increasing in intensity. Knees and ankles somewhat swollen. Sweats considerably towards night. Had a mixture containing potass. citrat. gr. xl. every three hours until April 14th, P. M., when there being little change for the better, acid. salicylic. gr. viijss. every four hours was ordered.

April 15th, A. M. Slept well last night and is feeling much better this morning; has no pain; joints sore on moving; temperature  $98\frac{1}{2}^{\circ}$ , pulse 76, urine alkaline.

April 16th, A. M. Joints more painful; tongue a little coated; appetite poor. Noticed nodes on each tibia, which are quite red and tender. All the joints were painful last night. Has sore throat.

April 17th, A. M. Slept poorly from pain. Continue acid.

April 18th, A. M. Slept well last night; pains slight; joints stiff.

April 19th, A. M. Pains gone entirely; slept well last night.

April 21st. Sitting up; pain returned in knee last night; not severe. Ordered potass. iod. gr. xxx. daily. Continue salicylic. acid.

April 27th. Acid stopped; iodide continued; pain and stiffness all gone; took  $\text{vj}$ . acid in all.

CASE VI. *Acute Rheumatism.*

M. M., age 25; female. April 22, 1876, took cold by sitting near an open window while perspiring freely. Second day afterward took to bed with severe pains in back and feet; feet swollen; was in bed a week; treated by a physician, but treatment not known. Sat up four days; pains returned and took to bed again.

May 9th. Ordered acid. salicylic. gr. x. every hour till pain relieved. Next day pain all gone; joints sore and stiff. Powders did not disturb the stomach; took them in paper. Continued the powders at longer intervals during the week.

May 21st. Pains returned again, but not so severe. Took powder again every hour till relieved.

May 28th. Has continued the powders at increasing intervals. Appetite has increased constantly while taking the powders. The swelling, soreness, and stiffness gone from all the joints. Has taken in all one ounce of the acid.

REMARKS.—The first four cases seem to show that salicylic acid is efficient in controlling periodic fever and neuralgia as well as quinine; indeed, in the one case of neuralgia reported better. The dose required seems to be about four or five times greater than quinine; but the cost of salicylic acid is now less than one-sixth that of quinine, 35 cents and \$2.35 per ounce. So the cost of a drachm of salicylic acid would be equal to nine grains of quinine, which would certainly be a small allowance per day for a severe case of intermittent fever or neuralgia, while a drachm of salicylic acid would in most cases be an ample allowance. As with quinine its taste is very disagreeable. But it may be administered in wafers or paper and be tasteless. The dry powder is usually quite readily taken also in any thick syrup. It was given in the hospital, in above cases, in solution as follows:

Acid. Salicylic. .... ʒj.  
Alcoholis ..... ʒ vij.

Dissolve and then add—

Ext. Malt } aa ..... ʒ vij.  
Aquæ }  
Syr. Glycyrrhizæ ..... ʒ iij.

Half an ounce of this mixture contains ten grains of the acid—the usual dose. If borax in equal quantities with the acid or less, be added to the mixture, the alcohol may be diminished, as the borax renders the acid more readily soluble, though it makes the mixture more liable to disturb the bowels. The acetates of potassa, soda and ammonia also render the acid much more soluble, so that the alcohol may be omitted in the menstruum. The pure acid is more readily soluble than the impure,



Case III. illustrates very well the effects of a full dose — yes, over dose — of the drug.

By the kindness of Drs. Schaefer, Palmer and Sienank, at the Mercy Hospital, I am able to give the following results of experiments made upon themselves to determine the effects of salicylic acid when taken in health. The real effect upon the pulse, respiration, and temperature, is doubtless the most accurately shown in Experiment I., as the Doctor lay quiet during the first three hours of the experiment, while the others were moving about as their duties called them. Yet it will be seen that the results noted substantially agree.

#### EXPERIMENT I.

Amount taken, gr. xv. in solution at one dose. Weight of man 140 lbs. Normal pulse, (position reclining,) 72. Axillary temperature 98°. Respirations 16. Remained in reclining position three hours. After taking the drug the following observations were made:

Time.	Pulse.	Resp.	Temp.	
5 Min.	72 mod. size.	16	98°	
10	82 a little bounding.	18	98 1-10°	
15	72 full volume.	13	98 1/4°	
20	72 " "	12	98 6-10°	Surface temperature depressed, knees, ankles and elbows cool to the touch.
30	72 " "	11	98 4-5°	Surface temperature depressed, knees, ankles and elbows cool to the touch.
35	72 " "	10	99°	Limbs cold from knees to middle third of thigh; and from elbows to middle of humerus. Considerable diaphoresis about the joints mentioned.
40	72 " "	9	99°	Limbs cold from knees to middle third of thigh; and from elbows to middle of humerus. Considerable diaphoresis about the joints mentioned.
45	74 " "	10	98 1/2°	Skin perspiring all over. Joints quite cold to the senses. Head feels "light." Brow very moist.
55	74 " "	13	97 1/2°	Knees, elbows and ankles very cold and clammy. Desire to urinate quite marked.* Entire surface of body moist and cool.

\* The bladder was evacuated just before the acid was taken.

Time.	Pulse.	Resp.	Temp.	
1 Hour.	74 full volume.	13	98½°	Whole surface of body quite moist but comfortably warm; face a little red; passed half pint of urine.*
1¼	74 " "	14	98½°	Skin <i>wet</i> all over. Knees and elbows still cold, while surface temperature is higher than normal. Head feels "full." Feel buoyant. Face flushed.
1¾	80 very full.	16	99°	Feel a glow of heat all over body except the joints, (knees and elbows.) Skin still moist; face very red and warm.
2	80 " "	18	98 9-10°	Feel a glow of heat all over body except the joints, (knees and elbows.) Skin still moist; face very red and warm.
2½	72 moderate vol'm.	16	98°	Surface temperature, little above normal. Still somewhat moist. Face continues flushed. Passed urine, half pint, light colored.*
3	72 " "	16	98°	Surface temperature again natural. Skin only slightly moist.
4	72	16	98°	Only signs present indicating the action of the drug, <i>cold joints</i> .
6	72	16	98°	Only signs present indicating the action of the drug, <i>cold joints</i> .

## EXPERIMENT II.

Amount taken, gr. x., one dose in pills. Weight of man 150 lbs. Normal pulse 96, sitting. Axillary temperature 98 3.5°. Respiration 18. Urine tested with Tinct. Ferri Chld. After taking the drug the following observations were made. (Pulse and respiration taken in sitting posture.)

Time.	Pulse.	Resp.	Temp.	Urine Test.
5 M. aft'r.	100	18	98 3.5°	No trace present.
15	104 full.	24	98¼°	Precipitate slight; violet tint.
30	96 " "	24	98 1.5°	Precipitate slight; violet tint.
45	96 " "	24	98°	Precipitate dark wine color.
60	96 " "	24	98 2.5°	Skin dry and cool. Purple color.
2½ Hours.	96 " "	24	98 3.5°	Skin moist and cool; knees and elbows cold. Purple color.
8	96 mod.	20	98 3.5°	Skin normal. Purple color.
50	96	18	98 3.5°	Wine color.

\*The bladder was evacuated just before the acid was taken,

## EXPERIMENT III.

Amount taken, gr. xv., in solution. Weight of man 140 lbs. Normal pulse, sitting, 76. Axillary temperature 97 2.5°. Respiration 16.

Time. Minutes.	Pulse.	Resp.	Temp.	Urine Test.	
4	80	18	97 2.5°	Light violet tint.	
10	80	19		" " "	
20	72	19			Skin a little moist all over.
30	72	14	96 2.5°	Wine color.	Skin very moist; knees and elbows quite cool.
60	72	18	97 2.5°		Surface temp. below normal; knees and elbows cold and clammy; entire surface covered with perspiration.
90	72	21	98°	Purplish.	Face flushed and warm; head feels a little light.
Hours. 2 3/4	72	16	96 3/4°	Purple.	Face flushed and warm; head feels a little light.
6	72	16		"	Surface of body normal.
8	76	13	97 1/4°	"	" " "
48	76	16	97 2.5°	"	" " "
72	76	16	97 2.5°	Urine gives a very faint violet tint.	

## EXPERIMENT IV.

Amount taken, grs. xx., in solution. Weight of man 145 lbs. Normal pulse, sitting, 65. Axillary temperature 98 3.5°. Respiration 16.

Time. Minutes.	Pulse.	Resp.	Temp.	Urine Test.	
5	60 strong.	18	98 3.5°	No trace.	
10	66	"	20 98 3.5°	Slight violet tint.	
30	57	"	24 98 1/4°		Knees, ankles and elbows cool to touch and to the sense. Skin moist all over. Head feels light.
Hours. 3	60	22	98 1.5°		A sensation of heat all over body; face flushed; feels exhilarated; head feels full.
8	60	20	98 1/4°	Purple color.	
12	60	18	98 1/4°		Joints still cold.
Days. 2 1/2	60	16	98 1/4°	Wine color.	No phenomenon present.

It will be noticed as the result of these experiments, that the acid is rapidly absorbed, and in from four to ten minutes begins to be eliminated by the kidneys. The amount eliminated gradually increases during the first one or two hours, when the capacity of the kidneys seems to be reached, and the quantity eliminated remains quite constant during the next three to eight or more hours, according to the amount taken, and then it diminishes until it is all excreted, some two or three days after a single dose is taken; depending upon the amount taken.

The increase of pulse, respiration and temperature immediately after the taking of the acid is noticable in Experiment I. Then follows the rapid fall of the pulse to normal, and the respirations much below normal, while the temperature rises; but later the temperature also falls below normal, and then with the pulse and respiration it rises above again; and finally all return to the normal standard at the end of two and a half hours after taking the acid. But the remarkable effect, both in health and in disease, is the great reduction of the sensible and actual temperature of the extremities, and this reduction of temperature will be increased by larger or continued doses till the axillary temperature is decidedly lowered; a result which is especially noticed in disease. The acid seems to act especially upon the trophic nerve centres, if such centers exist, which preside over nutrition and the production of animal heat; lessening their activity, and thereby diminishing the temperature, especially in the extremities.

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## ITINERANT PILE-SURGEONS AND THEIR SECRET.

By EDMUND ANDREWS, A.M., M.D.

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A number of men are itinerating in Illinois and the adjacent States, and treating hæmorrhoids by a new method. The secret has been sold to various physicians and other persons, at prices varying from fifty to twelve hundred dollars, and some of the purchasers have left a good practice in the expectation of making a fortune by traveling about and applying the remedy.

The itinerants usually claim to proceed without any operative measures, but a highly intelligent physician of this State, who investigated the matter somewhat, satisfied himself that a hypodermic syringe was used, but was not certain about the fluid injection.

Subsequent investigation has placed the plan more fully in my possession, and I give it here for the benefit of all concerned.

The first thing is to have a good hypodermic syringe, kept in perfect order, with sharp, delicate pipes. The fluid used is strong carbolic acid dissolved in any bland fixed oil. The proportions are usually as follows:

℞ Crystalized carbolic acid.....	℥ iij.
Pure oil.....	f. ℥ i.
Mix.	

Some of the itinerants use equal parts of the two ingredients, and some of them substitute glycerine instead of oil, and at least one of them has tried a preparation of ergot.

When the piles are internal, and not readily brought down, a Sims' speculum is employed to uncover them. The operator generally takes only one pile at a time, always selecting the uppermost first, and injects into its interior from four to six drops of the carbolized oil, or rather the oleized carbolic acid. The injection turns the pile white, probably coagulates the blood in its vessels, and results in its shrinking

away without the inflammation being severe enough at any one time, as a general thing, to prevent the patient from attending to his business. The well-known power of carbolic acid to act as a local anæsthetic, antiphlogistic and antisymp-tomatic, favors the progress. When the irritation of the first injection has measurably subsided, another pile is attacked in the same way, and, as the patient cannot see the syringe, he supposes that he has not been subjected to any "operation," which is a great satisfaction to him. The itinerant often call their plan "painless," but it proves in some persons atrociously distressing. The result is in many other cases excellent, so that the plan may turn out to be worthy of a permanent place in the treatment of hæmorrhoids.

However, the question whether it is perfectly safe has yet to be decided. In some instances these itinerants have gotten into an alarm at the condition of their patients, and begged earnestly for advice from men who knew more of surgery than themselves, but I have not yet heard of any actual deaths.

The injection of coagulating fluids into enlarged veins in other parts of the body has been extensively tested, the article used generally being tincture of iron. Maisonneuve, of Paris, practiced this class of injections in a great number of cases with success; but as experience increased dangers were discovered, and a number of patients have almost instantly died under the operation. The mode of death is supposed to have been this: Drops of the coagulating fluid thrown into an enlarged vein may become covered with a thin pellicle of coagulum, and in that state be swept on into the heart, where, by the bursting of the pellicle the fluid is diffused, and a large coagulum may be instantly formed, and death by embolism occur.

If anything analogous should result from the injection of the carbolic acid and oil into the hæmorrhoidal veins, death would not be likely to occur suddenly, because these veins terminate in the portal system, and therefore any encapsuled globules or floating coagula would be arrested in their passage by the capillaries of the liver. Whether the clots thus lodged in the liver would, when large, fatally obstruct the portal vein, and

when small, produce hepatitis and hepatic abscess, is a question which cannot at present be answered. It is to be desired that physicians should carefully note whether any dangerous hepatic complications are developed after this method of treating piles, and if so to report at once to the journals. Honest surgeons will not at present, perhaps, feel justified in risking it, but these rather reckless itinerants will probably test the matter extensively, and it is our duty to observe the results. If the danger of embolism proves to be practically nothing, there is probably little else to be feared, and the operation may be a valuable addition to our resources.

#### A CASE OF INJURY OF THE SPINE—ENORMOUS ACCUMULATION OF INTESTINAL GAS—EVACUATION WITH ASPIRATION—RECOVERY.

By E. W. LEE, M.D., CHICAGO.

On the evening of the ninth of May I was called to visit J. K., aged thirty-five years, and obtained from him the following history of his case:

Four days previously he was driving his team under a shed, and the wagon-seat being higher than that on which he was accustomed to ride, he got caught between the seat and roof, and was severely crushed. He was removed to his home and a physician called to attend him. His back had been assiduously rubbed with liniments, etc. There had been no action of the bowels from the time of the injury, notwithstanding that purgatives had been freely administered, also enemata. Having patiently listened to his story, I proceeded to examine him, and first feeling his pulse, I was very much astonished to find it extremely feeble—in fact so easily obliterated as to make it a very difficult matter to count it. As well as I could make out, it was not over 115 to 120; his skin was cold, and he was bathed in profuse perspiration; the countenance had that sunken, pinched appearance characteristic of collapse—*his voice was strong*—the whole abdomen was enormously distended. He had been vomiting continuously, the dis-



charges having the odor, as he expressed it, "of a Bohemian water closet." I saw at once that it would be useless to go through the form of administering purgatives, enemata, etc., besides they had been thoroughly tried. I injected  $\frac{1}{2}$  gr. sulph. morph. hypodermically to begin with, and as the case seemed desperate, thought the best chance to save the man's life was to directly liberate the accumulation of gas in the abdomen.

I provided myself with an aspirator, and with counsel in the person of my friend Dr. Cooley, who entirely coincided with me as to the course of treatment to be pursued, I selected the smallest needle of the aspirator, and boldly plunged it to the hilt into the most prominent point on the left side; a quantity of gas escaped, making a noise not unlike a "Kidder" battery in operation; this gas had a most sickening smell, and we judged from it that sphacelus had already set in; this impression being made stronger by the fact that after we had inserted the needle (larger size) into the right side and into the stomach, each time liberating a quantity of gas, and sensibly diminishing the distension, and the morphine having had ample time to have its full effect; his pulse was still weaker, almost gone; his skin colder, and the perspiration more profuse. We supposed the man would not live more than three or four hours (this was at 9 P. M.).

Next morning I was again sent for, and to my surprise heard that the bowels had spontaneously acted three or four hours after we left, and simultaneously the vomiting had ceased; the pulse had returned at the wrist; the distension was considerably diminished; he had partaken of and retained some nourishment, and felt much better. I turned him on his side in order to examine his back. The whole surface was contused, and about the lower end of the dorsal region I discovered that a couple of the spines of the vertebra were fractured. The man went on very well from that time, and has made so far a good recovery. The only hopeful symptom about this case was that the pulse was not high, at the most I do not think it reached 120, but it was impossible to get an accurate count.

I publish this case because I have no doubt that the liberation of the gas proved a strong stimulant to the restoration of peristaltic action, and also as illustrating the impunity with which the peritoneum may be punctured.

## THE MORTALITY OF SURGICAL OPERATIONS IN THE UPPER LAKE STATES, COMPARED WITH THAT OF OTHER REGIONS.

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ASSISTED BY THOS. B. LACEY, M.D.,

ASSISTANT SURGEON IN THE NATIONAL SOLDIERS' HOME.

(Continued.)

### AMPUTATION AT THE KNEE JOINT.

This operation has evidently not been a favorite in the Lake States, as I have no cases of it reported to me. Abroad the following statistics are found:

#### PRIMARY.

AUTHORITIES.	CASES.	DIED.
Boston City Hosp. Rep. Dr. Cheever .....	1	0
St. Bartholomew's Hosp., 1863-71 .....	2	0
Mass. Gen. Hosp. ....	5	3
Circular No. 6, Surg. Gen. U. S. A. ....	49	16
Crimean War, Schmidt's Jahrbücher, Vol. 156, p. 250 .....	39	31
German-French War, " " " " " " .....	1	1
American Jour. Med. Sci., 1868, pp. 333, 555. Dr. Brinton..	109	47
Totals .....	206	98

Mortality, 48 per cent.

#### INTERMEDIARY AND SECONDARY COMBINED.

AUTHORITIES.	CASES.	DIED.
Dr. D. W. Cheever, Boston .....	1	1
St. Bartholomew's Hosp., 1863-71 .....	1	0
Siege of Strassburg, 1870-71. Dr. Herrgolt .....	3	3
Crimean War, Schmidt's Jahrbücher, Vol. 156, p. 250 .....	8	7
German-French War, " " " " " " .....	5	4
American Jour. Med. Sci., 1868, pp. 333, 555. Dr. Brinton..	68	27
Totals .....	86	42

Mortality, 49 per cent.

## PATHOLOGICAL.

AUTHORITIES.	CASES.	DIED.
Guy's Hospital Reports .....	1	0
St. Bartholomew's Hosp., 1863-71 .....	6	2
Mass. Gen. Hosp. ....	11	4
American Jour. Med. Sci., 1868, pp. 333, 555. Dr. Brinton.	92	19
British Army Med. Rep. ....	1	0
Prof. Billroth, Arch. klin. Chir., B. x. ....	7	6
Lücke, Deutsch. Zeitschrift für Chir., Bd. ii. ....	1	0
<b>Totals</b> .....	<b>119</b>	<b>31</b>

**Mortality, 26 per cent.**

**TIME OR CAUSES IMPERFECTLY STATED.**

AUTHORITIES.	CASES.	DIED.
St. George's Hospital, London .....	7	3
Circular No. 3, Surg. Gen. U. S. Army, Traumatic .....	3	0
" " 6, " " " " " .....	73	51
Bericht k. k. allg. Krankenhaus, Wien .....	3	2
Statist. des Hôp. de Paris, 1861-2-3 .....	2	1
Lücke. Deut. Zeitschrift, B. 2 .....	2	1
Zurich Hosp., 1860-67 .....	1	1
Arch. klin. Chir., Bd 17, S. 510 .....	38	11
Totals .....	129	70

**Mortality, 54 per cent.**

### SUMMARY OF AMPUTATIONS AT THE KNEE JOINT ABROAD.

	CASES.	DIED.	PER CT. MORT.
Primary	206	98	48
Intermediary and Secondary combined	86	42	49
Pathological	119	31	26
Conditions imperfectly stated, but cases nearly all military	129	70	54

The pathological cases here are nearly all those called by Brinton "secondary pathological;" that is, cases which are more or less chronic. The importance of the distinction is that amputations in the acute inflammatory stage of the knee joint are very fatal, whether performed at the knee or just above it, and should be avoided if possible.

### OPINIONS OF AUTHORS.

Amputation at the knee joint, instead of at the lower third of the thigh, was first performed by Fabricius Hildanus, in

1581, and re-introduced to the profession mainly by the efforts of Velpeau, Markoe and Brinton. It was first performed in America by Prof. Nathan Smith.

The operation was at first mainly performed by leaving the condyles in the stump. Mr. Carden, of Great Britain, introduced as an improvement the plan of sawing off the articular portion of the condyles, and the statistics of that country apparently showed about six per cent. more safety by that method, but Dr. Brinton, (*Am. Jour. Med. Sci.*, 1868,) adds the American statistics, which change the result, and render the two methods almost exactly equal, as may be seen in the following figures:

CONDYLES LEFT.		CASES.	DIED.	PR.CT.MORT.
American Cases.....	45	12	27	
Foreign Cases.....	34	10	29	
Totals.....	79	22	28	
CONDYLES REMOVED.		CASES.	DIED.	PR.CT.MORT.
American Cases.....	19	6	32	
Foreign Cases.....	13	3	23	
Totals.....	32	9	28	

Dr. Brinton compares the mortality of amputation at the knee joint with that of amputations of the thigh, in order to show that the knee joint is much the safer location. In doing so, however, he commits the mistake of making his comparison with amputations in all parts of the thigh together. This is not fair. Cases which require amputation at the middle and upper thirds of the thigh, do not admit of the knee joint as a substitute. The only thigh amputations which allow the choice are those at the lower third. If now we take our summary of amputations in the lower third abroad, and place them beside the corresponding knee amputations, we get the following result:

	MORTALITY OF AMPUTATIONS.	
	At Lower 3d of Thigh.	At Knee Joint.
Traumatic Primary.....	45 per cent.	48 per cent.
Traumatic Secondary.....	60 " "	49 " "
Pathological.....	20 " "	26 " "
Averages.....	42 " "	41 " "

The superiority of the knee joint amputation over that at lower third of the thigh averages only one per cent., a difference too small to be trusted, especially as part of the cases are picked up from scattering operations reported in journals, a method of collection which always gives too large a proportion of successful results.

Mr. Liston, in Holmes' System of Surgery, p. 606, praises the operation exceedingly for the small amount of tissue divided, the excellence of the flap, the absence of exfoliation of bone and great length and usefulness of the stump.

T. Holmes (Surgery, its Principles and Practice, p. 923,) says he is "rather fond" of the operation.

Gant's Surgery, p. 706, says the "results with regard to the stump are advantageous."

Gross' System of Surgery, Vol. II., p. 1122, praises the operation because of its length of stump, the fact that it avoids some dangers by not opening the medullary canal, has no exfoliation of bone, and has a low mortality; but he opposes its performance when any point lower down is admissible.

Parker, of New York, in the *New York Journal of Medicine*, Vol. IX., N. S., p. 308, advocates it as "justifiable," and giving a good stump.

Dr. Henry Smith, in his *Operative Surgery*, at first opposed it, but later, in his *Principles and Practice of Surgery*, Vol. II., p. 704, retracted his first opinion, and though still in doubt, inclined to favor it.

Markoe of New York, Brinton of Philadelphia, Erichsen of London, and Von Langenbeck of Berlin, all favor the operation.

Of the older surgeons, Velpeau, Textor, Kern, Volpi, Brasdor, J. L. Petit, Hoin and Blandin advocate the operation; while Dupuytren, Larrey and Zang unconditionally opposed it.

#### CONCLUSIONS.

It is evident that the mass of the best writers now favor the amputation at the knee joint whenever the condition admits of its being substituted for that of the lower third of the

thigh. Its danger is perhaps a little less, and the stump is better. It is therefore to be preferred in such cases. As to the question whether simple disarticulation, or sawing through the condyles is the best, the statistics show the danger to be the same, when the American and Foreign cases are added together. It has been thought that the presence of the cartilage and synovial surface would have some of the same evils which result from opening a knee joint to the air, but experience apparently shows otherwise, or if the presence of those tissues is somewhat objectionable, that danger is balanced by the increased risk of pyaemia induced when the cancellous tissue of the condyles is sawn through.

#### AMPUTATION OF THE LEG.

Of this very common operation I find the following cases recorded in the Lake States:

TABLE IX.

AMPUTATION OF THE LEG IN THE LAKE STATES.

No. Am- drew's Sur. Rec	OPERATOR.	Age	REASON FOR OPERATION.	COMPLICATIONS.	Operat'n	Cond.	Time to operation.	Result.	Time to death or recovery	Practice.
644	Dr. E. Andrews	35	Both feet crushed.	Mortification.	Dbl. Amp Middle 3d	Good	Primary	Recover'd	8 mos.	Private
1553	"	"	Leg crushed by cars.	Kept in close, foul room.	"	Good	Primary	Died	30 days	"
1901	"	36	Neuralgic stump of leg.	"	Re-a-up. 3	Good	Primary	Recover'd	30 days	Hospital.
1857	"	"	Leg and arm crushed by cars.	Great shock—amp. of arm	Middle 3d	Bad.	Primary	Died	2 weeks	"
3395	"	57	Leg crushed by train.	"	Middle 3d	Good	Primary	Recover'd	10 "	"
3392	"	"	Fractured leg by cars.	"	Circ. m. 3d	"	Primary	"	"	"
3508	"	"	Fractured leg by cars.	"	Upper 3d	"	"	"	8 mos.	"
3567	"	"	Foot crushed off.	"	"	"	"	"	5 weeks	"
3601	"	38	Leg crushed by cars.	"	Middle 3d	Med.	"	Died	6 days	"
3196	"	45	Comp. fract. foot & leg.	Mortification of foot.	Upper 3d	"	Secondary	Recover'd	"	Private
6017	"	60	Carries of tibia.	"	Middle 3d	"	Several yrs.	Died	3 days	"
6042	"	35	Carries of tibia.	"	Upper 3d	"	Primary	Recover'd	"	"
6200	La Count.	25	Comp. fract. of ankle.	Calcified arteries, exhaus.	Cir. low. 3	Good	Primary	"	"	"
"	"	35	Comp. fract. of ankle.	"	"	"	"	"	"	"
"	"	36	Foot and ankle torn badly.	"	"	"	"	"	"	"
"	"	36	Wound of ant. tibial art. Gangrene	Hemorrhage.	"	"	"	"	"	"
"	"	16	Comp. fract. tibia and fibula.	"	"	"	"	"	"	"
6600	E. Andrews.	25	Diseased foot & tibia.	"	Flap low 3	Med.	Primary	"	6 weeks	Hospital.
6975	"	62	Comp. and commin. fract. of leg.	"	Cir. up 3	"	Primary	"	32 "	"
7012	"	30	Scald and commin. fract. of leg.	Weak with age	Flap up 3	Bad.	Primary	Died	5 days	"
"	"	30	Both feet crushed.	Great shock	"	low. 3	"	"	1 "	Private
"	D. Brainard	12	Comp. of ankle	"	Lower 3d	"	Primary	Recover'd	"	"
"	"	"	Comp. fract. of ankle.	"	"	"	"	"	"	Hospital.
"	Ammerman	53	Necrosis of tibia and fibula.	"	Flap up. 3	"	"	"	36 days.	"
"	A. Fisher.	45	Comp. and commin. fract. leg & arm	Great shock, ampt. of arm	Upper 3d	Bad.	4 hours	Died	6 hours	Private
"	"	30	Comp. and commin. fract. leg. R.R.	"	"	Med.	12	Recover'd	"	"
"	E. Owens	"	R. R. fracture.	"	"	"	Primary	"	"	Hospital.
"	"	"	Disease of parts	"	"	"	Secondary	"	"	"
"	Cook Co. Hosp.	"	"	"	Middle 3d	"	Primary	"	"	"
"	"	"	"	"	Lower 3d	"	Secondary	"	"	"
"	"	"	"	"	"	"	"	"	"	"
"	"	"	"	"	"	"	"	"	"	"
"	H. Wardner.	17	Leg crushed by falling tree.	Shock and contusion of pelvis, thigh & abdomen	Upper 3d	Bad.	Primary	Died	4 days	Private
"	"	11	Leg crushed on R.R. and fract. elbow	Shock	Middle 3d	Med.	"	Recover'd	2 mos.	"
"	"	25	Foot and ankle crushed by boats.	Shock and hemorrhage.	Lower 3d	"	"	"	6 weeks	"





## RECAPITULATION.

	CASES.	DIED.	PER CENT. MORTALITY.
Total of all locations .....	70	16	23
“ upper 3d .....	22	8	36
“ middle 3d .....	16	4	25
“ lower 3d .....	23	3	13
Primary, all locations .....	32	9	28
Intermediary and secondary, all locations .....	16	3	19
Pathological, all locations .....	13	3	23
Upper 3d, primary .....	13	6	
“ intermediary and secondary combined .....	4	1	
“ pathological .....	5	1	
Middle 3d, traumatic and primary .....	7	2	
“ intermediary and secondary combined .....	6	1	
“ pathological .....	3	1	
Lower 3d, traumatic, primary .....	12	1	
“ intermediate and secondary combined .....	6	1	
“ pathological .....	5	1	
Conditions imperfectly stated .....	9	1	
Hospital practice .....	28	5	18
Private practice .....	41	11	27

These cases are not sufficiently numerous to settle all points, but they show that, like amputations of the thigh, those nearest the body are most dangerous. The upper 3d has a mortality of 36 per cent., the middle of 25 per cent., and the lower 3d of 13 per cent.

Hospital cases, by some accidental coincidence show better than those in private practice.

## AMPUTATIONS OF THE LEG ABROAD.

Of these the literature of surgery furnishes a prodigious list, and, were they properly classified, they would settle nearly all questions capable of statistical solution. Unfortunately they are very imperfect in detail, and only a portion of them can be classified.

## AMPUTATION OF THE LEG ABROAD; UPPER 3D, PRIMARY.

AUTHORITIES.	CASES.	DIED.
Rept. Boston City Hosp., Dr. Cheever .....	4	2
Mass. Gen. Hosp. Rept., 1871 .....	26	7
Dr. Herrgolt, Siege of Strassburg, 1870-71 .....	14	5
Warren's Surgery, Confed. Army Rept. ....	41	17
Totals .....	85	31

Mortality, 36 per cent.

AMPUTATION OF THE LEG ABROAD; UPPER 3D, INTERMEDIARY AND  
SECONDARY COMBINED.

AUTHORITIES.	CASES.	DIED.
Rept. Boston City Hosp., Dr. Cheever .....	1	0
" Mass. Gen. Hosp., 1871 .....	13	4
Dr. Herrgolt, Siege of Strassburg, 1870-71 .....	6	3
Dr. E. Warren's Surg., p. 394, Confederate Army U. S. ....	33	18
Totals .....	53	25

Mortality, 47 per cent.

AMPUTATION OF THE LEG ABROAD; UPPER 3D, PATHOLOGICAL.

AUTHORITIES.	CASES.	DIED.
Rept. Bost. City Hosp., Dr. Cheever .....	1	1
" Mass. Gen. Hosp., .....	42	7
" Rostock Hosp. Rep. ....	4	2
Statist. des Hôpitaux de Paris, 1861-62-63. ....	15	9
Totals .....	62	19

Mortality, 31 per cent.

AMPUTATION OF THE LEG ABROAD; MIDDLE 3D, PRIMARY.

AUTHORITIES.	CASES.	DIED.
Rept. Boston City Hosp., Dr. Cheever .....	9	5
" Mass. Gen. Hosp., 1871 .....	47	19
" U. S. Marine Hosps., Dr. Woodworth .....	1	1
Dr. Herrgolt, Siege of Strassburg, 1870-71 .....	2	0
Dr. E. Warren's Surg., p. 394, Confederate Army U. S. ....	8	5
Totals .....	67	30

Mortality, 45 per cent.

AMPUTATION OF THE LEG ABROAD; MIDDLE 3D, INTERMEDIARY  
AND SECONDARY COMBINED.

AUTHORITIES.	CASES.	DIED.
Rept. Boston City Hosp., Dr. Cheever .....	3	1
" Mass. Gen. Hosp., 1871 .....	20	8
Dr. Herrgolt, Siege of Strassburgh, 1870-71 .....	1	1
Dr. E. Warren's Surg., p. 394, Confed. Army .....	3	2
Totals .....	27	12

Mortality, 44 per cent.

## AMPUTATION MIDDLE 3D OF LEG ABROAD, PATHOLOGICAL.

AUTHORITIES.	CASES.	DIED.
Rept. Boston City Hosp., Dr. Cheever .....	3	0
" Mass. Gen. " 1871 .....	46	3
Totals .....	49	3

Mortality, 6 per cent.

## AMPUTATION LOWER 3D OF LEG ABROAD, PRIMARY.

AUTHORITIES.	CASES.	DIED.
Rept. Boston City Hosp., Dr. Cheever .....	3	0
" Mass. Gen. Hosp., 1871 .....	20	7
Dr. Herrgolt, Siege of Strassburg, 1870-71 .....	2	1
Leeds Gen. Infirmary, Dr. Nunneley .....	69	28
Dr. E. Warren's Surg. Confederate Army, p. 394 .....	5	1
Totals .....	99	37

Mortality, 37 per cent.

## AMPUTATION OF LOWER 3D OF LEG ABROAD, INTERMEDIARY AND SECONDARY COMBINED.

AUTHORITIES.	CASES.	DIED.
Rept. Boston City Hosp. ....	6	1
" Mass. Gen. Hosp. 1871 .....	15	5
" U. S. Marine Hosp. ....	2	0
Dr. Herrgolt, Siege of Strassburg, 1870-71 .....	2	1
Dr. E. Warren's Surg., p. 394, Confederate Army .....	6	2
Totals .....	31	9

Mortality, 29 per cent.

## AMPUTATION OF THE LOWER 3D OF LEG ABROAD, PATHOLOGICAL.

AUTHORITIES.	CASES.	DIED.
Boston City Hosp. Rep. ....	1	0
Rostock Hosp. Rept. ....	2	0
Mass. Gen. Hosp. Rept. 1871 .....	28	5
Totals .....	31	5

Mortality 16 per cent.

# SURGICAL OPERATIONS IN UPPER LAKE STATES. 901

## AMPUTATION OF THE LEG ABROAD, IMPERFECTLY CLASSIFIED.

AUTHORITIES.	CASES.	DIED.
Circular No. 6, Surg. Gen. U. S. A. ....	2348	611
Statistics of Crimean War .....	1861	940
"    Italian War .....	475	326
"    German-French War .....	141	70
British Country Hospitals .....	888	177
St. Bartholomew's Hosp., 1869 .....	193	61
K. k. allg. Krankenhaus Bericht, Wien .....	241	71
Leeds General Infirmary .....	99	15
Parisian Hospitals .....	266	160
Edinburg Infirmary, 1859 to 1868 .....	86	38
Glasgow "    1844 to 1868 .....	180	77
Guy's Hospital, 1861 to 1868 .....	102	36
London "    1862 to 1868 .....	67	39
Combined Reports from various authors .....	558	212
Totals .....	6955	2833

Mortality, 40 per cent.

## GENERAL SUMMARY OF AMPUTATIONS OF THE LEG.

TOTALS.	LAKE STATES.			ABROAD.		
	CASE	DIED	PER CT. MORT	CASE	DIED	PER CT. MORT
Total of all kinds .....	70	16	23	7459	3004	40
"    private practice .....	41	11	27			
"    hospital " .....	28	5	18			
"    upper 3d .....	22	8	36	200	75	38
"    middle 3d .....	16	4	25	143	45	31
"    lower 3d .....	23	3	13	161	51	32
Upper 3d, primary .....	13	6		85	31	36
"    intermediary and secondary .....	4	1		53	25	47
"    pathological .....	5	1		62	19	31
Middle 3d, primary .....	7	2		67	30	45
"    intermediary and secondary .....	6	1		27	12	44
"    pathological .....	3	1		49	3	6
Lower 3d, primary .....	12	1		99	37	37
"    intermediary and secondary .....	6	1		31	9	29
"    pathological .....	5	1		31	5	16

The small proportion of perfectly classified statistics renders this summary a little irregular, but still it shows the general decrease of danger as we recede from the body, and the superior safety of pathological amputations (those of "expediency" always excepted) over traumatic cases.

## OPINIONS OF AUTHORS AND CONCLUSIONS.

Authors say very little about the special indications demanding amputation of the leg. In general terms they are such as demand amputation in any other part of the body. The surgeon must not be swayed, as is too often the case, by the ghastly appearance of a bad compound fracture, but consider the intrinsic condition of the limb as to circulation and innervation. If these functions are fairly preserved, a great amount of bony injury can be successfully overcome. In war a bullet traversing from before backward may shatter the tibia, bury a hundred of its fragments in the tissues of the calf, and destroy the posterior tibial artery and nerve, and yet the wound make no great external display. On the other hand, if the ball traverse from behind forward, the artery and nerve may escape, and the fragments of bone be driven out into the external air in front. The wound is large, ragged, and terrible to the eye, but much less dangerous than the former. Yet many a surgeon, in looking over his patients, has been moved by mere external appearances to amputate the better limb and try to save the worse one. Analogous errors are common in civil practice.

A mere bad compound fracture does not necessarily require amputation. Compound dislocations of the ankle often require resection, but rarely amputation. It is much disputed whether it is best to amputate anywhere for senile gangrene in the foot. If, however, it is decided to be best, the amputation should be at least as high as the upper third of the leg, and not in the foot. Some advise the lower third of the thigh.

Where the injury or disease requiring amputation of the leg admits of a choice of location, all authors agree that it should be as low down as possible, in order to reduce the risk to the lowest attainable figure. In the leg, as well as elsewhere, amputations of "expediency," *i. e.*, for deformities, etc., have the general risk of traumatic, and not the slighter one of pathological cases.

In compound fractures and dislocations of the ankle joint, amputation should not be performed unless mortification of

the foot or other imperative reasons demand it. Resection has the best results in those cases, conservative treatment next, and amputation the worst.

#### SYME'S AMPUTATION AT THE ANKLE.

I have not obtained a single recorded case of this operation in the Lake States, but the literature of the profession gives us many cases from abroad, though generally not classified. They are as follows:

AUTHORITIES.	CASES.	DIED.
Deutsch Zeitschrift, fur Chir. Bd. I. und II.....	3	0
Dr. Herrgolt, Seige of Strassburg, 1870-71.....	2	1
Dr. E. Warren's Surg., Confederate Army.....	2	1
Hancock.....	219	17
Birmingham Hospt. 1858-64, Richardson.....	45	7
Rostock Hospt. Rept. 1868.....	6	1
Brit. Army Med. Rep.....	2	0
Archiv. Klin. Chir. Bd. X, Billroth.....	2	0
" " " " X, XIII and XVII.....	44	3
Totals.....	325	30

Mortality, 9 per cent.

We will discuss the merits and opinions on this operation at the same time with the next one.

#### PIROGOFF'S AMPUTATION.

Of this we find in the Lake States quite a number of cases which are given below:



TABLE X.  
PIROGOFF'S AMPUTATION IN THE LAKE STATES.

No.	OPERATOR OR REPORTER.	Age.	CAUSE OF OPERATION.	COMPLICATIONS.	Operation.	Con- dition.	Time of operation.	Result.	Time to death or recovery.	Practice.
1866	Dr. E. Andrews	22	Both feet frozen.	Both feet amp. at once.	Pirogoff's	Good	Second'y.	Died.	16 days	Hosp.
2063	" "	"	Foot crushed.	Intemperate.	"	Med.	Primary	"	51 days	"
5428	" "	"	"	"	"	Good	"	Recov'rd	5 months	"
5984	" "	14	"	None.	"	"	"	"	1 1/2 ms.	"
5259	" "	"	"	"	"	"	13 days	"	1 1/2 ms.	"
5677	H.A. Johnson	"	and mortified	"	"	"	Primary	"	12 ms.	"
8467	E. Andrews.	18	Caries of tarsus.	None.	"	"	15	"	"	"
8468	" "	39	Foot crushed.	None.	"	Med.	Primary	"	"	"
8518	" "	"	"	Op. leg cr. and amp. 10 d.	"	"	10 days	"	"	"
.....	J.S. Sherman	25	"	"	"	"	"	"	"	"

## RECAPITULATION.

	CASES.	DIED.
Total (all Hospital patients) .....	9	2
Primary .....	5	1
Secondary and intermediary .....	3	1
Pathological .....	1	0

Total mortality in the Lake States, 22 per cent.

The cases are not numerous enough to furnish by themselves any special conclusions.

Abroad the literature furnishes us a moderate number, mostly unclassified.

## PIROGOFF'S AMPUTATION ABROAD.

AUTHORITIES.	CASES.	DIED.
Penn. Hosp. ....	2	0
St. George's Hosp. ....	2	1
Rostock Hospit. Rept. ....	4	1
Dr. E. Warren's surg., p. 394, Confederate Army .....	1	0
Bericht k. k. allg. Krankenhaus, Wien .....	26	9
Braithwaite's Retrospect, Jan. 1867 .....	58	5
Archiv. klin. Chir. Bd. X., Billroth .....	11	4
" " " " VIII .....	1	0
Deutsch. Zeit. f. Chir. B. I, S. 187; B. II., S. 380 .....	7	0
Totals .....	112	20

Mortality, 18 per cent.

## OPINIONS OF AUTHORS.

Syme's and Pirogoff's amputations are rivals of each other, being applied to the same class of cases.

The American Surgeon General's Circular, No. 6, says that Pirogoff's operation is regarded with little favor.

Baron von Horrowitz, the Surgeon-in-Chief of the Russian Marine, says that Pirogoff himself has abandoned it on account of the frequent occurrence of necrosis of the os calcis.

Dr. Stephen Smith says the stump of Syme's operation is better than that of Pirogoff.

Hewson, on the contrary, (quoted in Ashurst's Surgery, p. 122,) says that Pirogoff's stump has some decided advantages over Syme's, in that the patient can walk and run upon it.

Liston, in Holmes' System of Surgery, Vol. V., p. 644, prefers Syme's amputation as simpler, easier, and less liable to caries.

Gant's Surgery, p. 701, says this liability to caries is not present in traumatic cases.

Erichsen's Surgery, Vol. I., pp. 78, 79, speaks favorably of Pirogoff's operation, and thinks the objections to it not very well grounded in experience.

Gross' Surgery, Vol. II, p. 1119, prefers amputation of the lower 3d of the leg to either Pirogoff's or Syme's operation.

Dr. Stephen Smith, on the contrary, in his contribution to the papers of the United States Sanitary Commission, concludes that Syme's amputation is 50 per cent. safer than that at the lower 3d of the leg.

Hamilton's Surgery, p. 368, says that the stump in both Pirogoff's and Syme's operation is often most excellent.

Bryant's Surgery, p. 964, speaks in the highest terms both of Pirogoff's and Syme's amputations.

#### CONCLUSIONS

As usual, the opinions of surgeons are a little contradictory of each other, yet the majority favor Syme's rather than Pirogoff's method. The statistics, though less perfect than could be desired, still point to the same conclusion, for we have as follows:

	CASES.	DIED.	MORTALITY.
Syme's amputation.....	325	30	9 per ct.
Pirogoff's ".....	112	20	18 "

It would appear, therefore, that thus far Pirogoff's operation has had double the mortality of Syme's, an important fact scarcely referred to by our best authors.

It is evident, therefore, that as facts and opinions now appear, they compel us to consider Syme's operation as much the best.

The military statistics of Demme, Stromeyer and Legouest, give for compound fractures of the foot much better results

for conservative treatment than for any kind of amputation. The superiority of their conservative figures varies from 28 to 59 per cent.

It would seem, therefore, that an amputation of the foot is not demanded for ordinary bad compound fractures, but only for that portion of them where there is such an amount of mortification as compels it.

(To be continued.)

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## THE PATHOLOGICAL TRANSACTIONS OF THE CHICAGO MEDICAL SOCIETY—No. 1.

EDITED BY DR. I. N. DANFORTH.

### EXPLANATORY.

At its regular meeting, held on the evening of June 5, 1876, the "Chicago Medical Society" voted to publish its Pathological Transactions, and the undersigned was, with gratifying unanimity, elected editor. In carrying out this plan it is expected that a two-fold object will be accomplished, namely: *First*—to induce the members of the Society to promptly and accurately report their interesting cases, especially those which are accompanied by morbid specimens either of *ante* or *post-mortem* derivation; and, *Second*—to permanently record such cases, so that they shall be accessible to the profession at large for present profit, and future reference.

The editors of the CHICAGO MEDICAL JOURNAL AND EXAMINER having courteously proffered the use of their columns, the Transactions will, for the present at least, be published as an integral part of the JOURNAL AND EXAMINER. The liberality and enterprise of the publishers of the JOURNAL AND EXAMINER will enable the editor of the Transactions to present illustrations to all articles, which will be rendered more valuable thereby.

Copies of the Transactions alone, paged consecutively for future binding, can be obtained of the publishers, Messrs. W. B. Keen, Cooke & Co., at a cost of twenty-five cents per copy.

The Transactions will appear as often as circumstances

require, or as often as a sufficient amount of really valuable material can be secured. For the present it is probable that the numbers will be issued at intervals of about three months. It will be the aim of the editor to make the Transactions a repository of valuable and, so far as possible, original pathological knowledge. The value of researches in the domain of pathology and pathological histology is no longer a matter of doubt. The Chicago Medical Society recognizes this fact; and in commencing the publication of its Pathological Transactions it does but give expression to its desire to do its part in hastening the day when the science of medicine shall be a *science* indeed.

In conclusion the editor earnestly solicits the cheerful and constant support and assistance of the members of the Society, without which his own efforts must necessarily prove both futile and fruitless, but with which much valuable work can be done.

I. N. DANFORTH.

# I.

## OCCLUSION OF THE URETER BY A CALCULUS..

By DR. D. W. GRAHAM.

This specimen was accidentally found while eviscerating a subject in the dissecting room some two weeks after it had been received. The subject was a female, aged probably thirty-five years, with an average amount of adipose tissue. It was impossible to get the facts in regard to the history of the patient or the particulars of her illness. But we have the meager information that she was confined, and taken with puerperal fever, of which she died. So far as could be ascertained she had never complained of any symptoms indicating renal disease. Those who made the autopsy had evidently not been led to suspect any disease of those organs, for all the thoracic and pelvic viscera, and all the abdominal except the kidneys, had been thoroughly examined; they remained in situ. There was considerable hypertrophy of the right kidney, but otherwise its gross appearances were normal. The left kidney was so altered in outline and consistence that it was with difficulty recognized. It consisted of a pear-shaped sac, not much

larger than the normal kidney, which was filled with a dark-colored fluid, and this fluid had the odor of decomposing urine. The walls of the sac were from one-quarter to one-half inch in thickness in different portions. The capsule was thickened, and united to surrounding structures by inflammatory adhesions. The connective tissue beneath the mucous lining of the distended pelvis of the organ was considerably hypertrophied. The pelvis contained three urinary calculi—two of them about the size of beans, one as large as a chestnut, but irregularly cruciform, the long limb of the cross being inserted into the commencement of the ureter, and so completely closing it that firm pressure upon the kidney failed to empty it of its contents. After laying the sac open and evacuating it, it was referred to Dr. I. N. Danforth for microscopic examination.

*Microscopy.*—Sections were made from various parts of the sac, whose walls varied much in thickness and solidity of texture. I noticed the following microscopic appearances: The connective tissue in all parts of the organ was greatly increased, and the connective tissue corpuscles were multiplied. The cortical portion was condensed, the malpighian bodies were pushed and huddled together in irregular groups, their capillary plexuses being generally condensed, or possibly quite collapsed, by the proliferation of the endothelium of the capsule. The convoluted tubes were sometimes pinched by pressure of the hyperplastic connective tissue, sometimes distended by the accumulation of their thrown off lining cells; hence they were of very unequal caliber. The pyramids were nearly obliterated, and the straight tubes were shortened, distorted, or doubled upon themselves by pressure. In one place I found what I thought might be the remains of a pyramid, and upon making sections I could recognize the straight tubes, in a comparatively efficient condition. I present a camera drawing of a portion of one of the sections, the intertubular connective tissue being omitted. These tubes could be traced upwards until they became convoluted, and in this portion of the organ the glomeruli were but little changed. The coats of the vessels were generally thickened; and this was particularly noticeable in the tunica adventitia.

I. N. D.

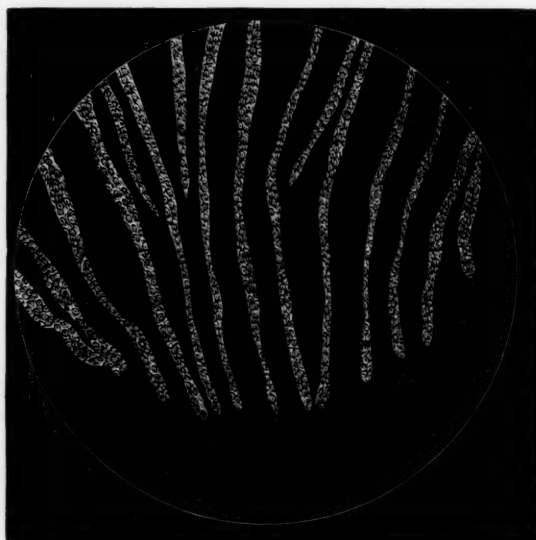


Fig. 1. To illustrate the appearance of the remains of the tubuli, in Dr. Graham's case. The inequality in the size of the tubes is well shown. (Tolles, one inch objective.)

Reported January 4, 1875.

## II.

### ADENOID (HODGKIN'S) DISEASE.

By DR. CHAS. WARRINGTON EARLE.

Mark L. Covell, aged twenty-six, died November 20, 1875. He was under my professional care sixteen days. During that time his disease was characterized by enlargement of the cervical, axillary and inguinal glands, extreme dyspnoea, effusions into the serous cavities, and rapidly advancing anæmia.

At my first visit I learned that some ten days before he had been seized with a terrible paroxysm of dyspnoea, for the relief of which the nearest physician was summoned. The disease was thought to be of a serious pulmonary character, and the patient was advised to visit Colorado. At this time I was requested to see the case. I found him sitting up, free from pain, pulse at one hundred, temperature normal. His respiration, however, was greatly accelerated, and his face and neck



presented a most remarkable appearance — the former being puffy and cyanotic, and the anterior and lateral portions of the latter so swollen that at first glance one would say that there was a tremendous enlargement of the thyroid gland. Upon examination, however, I found all the superficial veins of the head and neck enormously distended with blood, as were also the capillaries, giving the cyanotic hue mentioned above, while on the anterior part of the chest a large number of small ecchymosed spots could be seen, which were the result of small ruptured blood vessels. Wherever a lymphatic gland could be detected in the neck or axilla, it was found to be enlarged and indurated, but *not* tender or inflamed. There was dullness post sternum, respiratory sounds exaggerated in upper part of right lung, and evidence of considerable effusion in right pleura. The appetite was poor, bowels regular; no signs, from careful examination, of any kidney complication.

For three days I administered diuretics and cholagogue cathartics, hoping to diminish the amount of fluid in the chest and relieve the dyspnea. On the fourth day, November 8th, I performed aspiration, and drew away forty-three ounces of a yellow-colored fluid. The patient was now greatly relieved; the lividity of the integuments lessened, the swollen condition largely diminished, the breathing quite natural. The anæmia continued to increase, however; the glands were large and hard, and the effusion into the right cavity rapidly recommenced. Tonics and alteratives were of no avail. November 16th, drew away twenty-five ounces of a sanguineous-colored fluid from same cavity. November 18th, pulse 105, temperature normal, respiration 25. November 19th, pulse 110, temperature normal; evening, pulse very weak and rapid, greatly prostrated, intellect clear. Death next morning.

Autopsy, November 21st; present, Drs. Graham and Van Buren. The body was not markedly emaciated; the superficial enlarged glands could be easily distinguished; the ecchymosed spots upon the anterior part of the chest were plainly visible. The head was not opened. The left lung was healthy; the pleura on this side contained two ounces of slightly yellow serum. The right lung was hepatized to a considerable extent;

slight adhesions existed, and in the pleural cavity of this side was found forty-eight ounces of serum and blood. The mediastinal space was filled with an accumulation of enlarged glands, forming one large mass, reaching from the middle of and involving the trachea to the ensiform cartilage, impinging also on both lungs, and on the left pressing against the pericardium and contents. On the left side of this tumor, or more correctly mass of tumors, at the point where it came in contact with the heart and membranes, was a smooth, glistening surface, six inches in length by three in breadth, caused undoubtedly by the constant friction of this organ. Within the pericardial sac was found eight ounces of sero-sanguineous fluid. The liver was somewhat soft, the spleen normal. The mass of glands was referred to Dr. O. C. Oliver for microscopic examination.

*Microscopy.*—The tumor, as received from Dr. Earle, presented the appearance of having been very imperfectly preserved, it having, as I was told, been immersed in "Chloral Hydrate solution;" but however well this chemical preserves animal tissues under proper conditions, it had in this instance partially failed, owing in all likelihood to its volume having been relatively too small. Cubical pieces  $\frac{1}{4}$  inch to  $\frac{1}{2}$  inch in size were removed from different portions of the tumor, and immersed in a solution of chromic acid of two per cent. strength. In this they were permitted to remain for about two weeks, when sections were made which were immersed in alcohol diluted with its bulk of water. The specimens were next stained with the ammoniacal solution of carmine, after which the silver staining method was employed; and after a great number of trials and some modifications, a passable result was obtained.

A careful study of the specimens seems to me to warrant the following observations: The change in the mass of lymphatic glands originally composing the tumor did not seem to be one of heterogeneous growth, but rather of hypertrophy. This conclusion is arrived at after a careful study of the microscopic appearances, for these reasons, namely: In no case were the atypical cells characteristic of malignant

growths observed. The normal structure did not seem to be greatly altered in its appearance beyond what will be noted hereafter. The connective tissue seemed to be relatively greatly increased, but there were not visible the connective tissue corpuscles, which one would expect to find in abundance, but its substance was infiltrated with lymphoid cells. The lymph spaces presented the appearance in some portions of their course, of having become "clogged" up with the debris of lymphoid cells, together with the cells themselves, leading to a gradual obliteration of their caliber. To sum up, then, it seems that the tumor consisted of hypertrophied glandular tissue, with, perhaps, "sub-acute inflammation" products. The infiltrated connective tissue seems to warrant this hypothesis.

This hasty and somewhat incomplete report is rendered necessary by the condition of the specimen. o. c. o.

Reported February 7, 1876.

### III.

#### CASE OF ASPERGILLUS NIGRICANS.

By Dr. F. C. HOTZ.

The following history was obtained: Mrs. P., aged 26, of Winona, Minn., while pregnant became hard of hearing, about three years ago; never had any earache or sore throat. Soon after her confinement she was troubled with an itching and burning in her left ear, which did not subside until a little watery secretion was discharged from the external meatus. This attack was repeated almost every third month, but always subsided spontaneously. A change, however, was observed in the character of the discharge; it was watery at first, but afterwards appeared to be whitish, and to contain a granular cheesy matter, and during the past two months a black substance has several times been discharged from that ear. The whole meatus appeared black, as if coated with soot. By injections of tepid water a considerable quantity of a substance was removed which consisted partly of black, membranous shreds, partly of a yellowish-white cheesy matter. Under the microscope the black substance exhibited the characteristic

formations of the *aspergillus nigricans*, in full bloom; the cheesy matter proved to be composed of cell-detritus and mycelium fibers, without the sporangia and spores. The thoroughly cleansed wall of the auditory meatus was found to be deprived of the epidermis, and was red and somewhat swollen; the external surface of the membrana tympani was dull and opaque. The watch was not heard even when pressed on the left ear, and the tuning fork placed on the forehead was heard in the right ear only.

April 26, 1876.—Examination made, with the following results: Right ear, watch heard only when pressed against the ear; but after catheterization it was heard at the distance of one-half inch. After two weeks of treatment the right ear could hear the watch at two inches, and the left ear at one-half inch. The left meatus was pencilled over once with a solution of nitrate of silver, thirty grains to the ounce, and olive oil containing ten per cent. of carbolic acid was dropped in three times a day for one week. The external otitis subsided within one week; the fungus did not appear again, nor was there any discovered at the final examination on May 14th.

Reported July 17, 1876.

#### IV.

#### CASE OF FIBROID TUMOR OF THE UTERUS.

By DR. MARY H. THOMPSON.

Miss C. A., aged thirty-four years, seamstress, born in Scotland, entered the hospital for women and children May 31st, 1876, because of uterine hæmorrhage. She was rather above medium height, neither spare or corpulent in figure, had light complexion, light brown hair, blue eyes, and sharp features. Her face, lips and tongue were much blanched by hæmorrhage. The left arm was paralyzed in the motor nerves so as to hinder action, in the following manner: the hand could not be flexed upon the forearm, nor the forearm upon the arm; but the arm could be flexed upon the chest, the last movement being all that could be made with the arm. I think the nerves of sensation were not paralyzed in any way. The left leg was so cedematous as to seem a fully developed phlegmasia alba dolens.

Apparently there was an intramural fibroid tumor occupying the whole posterior wall of the uterus, which seemed as large as the foetal head at term. The os was open enough to admit the ends of two fingers. The menstrual flow began at about thirteen years of age, and was quite regular until four or five years since, when it became more profuse, without the period being lengthened, until the last, after which it never ceased during the remainder of her life. The sensation in the hand was that of cold and numbness. The leg and foot were at times painful; at others they had a pricking sensation.

The hæmorrhage began about five weeks before she entered the hospital, as a profuse flooding, and came on just before that menstrual period was due. The paralysis of the arm occurred about two weeks after the hæmorrhage began, and the œdema of the leg about eight days after the paralysis. The uterine discharge was at times bright red blood, and at others a dark watery secretion, containing small brownish decomposing clots, and had an exceedingly offensive odor.

The treatment was simply that designed to prevent septicæmia, by carbolized vaginal washes, and remedies to support the strength, such as iron, quinine, and good food. Ergot was given in small doses, but was found to be useless. The limb was treated like the puerperal phlegmasiæ.

There was but little change from May 31st to June 7th, when I was called away, and the case passed under the professional care of Prof. John Bartlett, who furnished the following supplementary account:

"After the case of fibroid was entrusted to me, the main symptom was hæmorrhage. The paralysis continued the same to the end; the leg from the time you left, improved and became daily less painful and swollen. Fætor of the uterine discharge was a constant symptom, and the very great pain induced in the palsied leg by any manipulation, interfered with the disinfecting of the vagina. The patient had but little appetite, and the amount of food taken was less than it otherwise would have been, because of a difficulty of swallowing, which seemed to depend upon a paralysis of certain muscles concerned in deglutition. From day to day she grew paler

and thinner, and finally death occurred from asthenia, June 13th. The treatment adopted by me was warmth and gentle friction with liniment, to the leg, and such efforts to nourish and sustain as the depressed condition suggested. Neither opium, ergot, the mineral acids or lead were able, permanently, to stop or materially lessen the flow from the uterus. The presence of the evidences of septicæmia, and the putrid nature of the discharge from the womb, deterred me from the use of the tampon, and similar considerations contra-indicated the use of local astringents. I regard the paralysis as due to embolism."

The *post-mortem* appearances were as follows: A partial examination of the body was made eight hours after death. The thoracic and abdominal organs were normal. Those of the pelvis were natural, except the uterus, which was nearly symmetrical, and the body of which was as large as the fetal head at term—the whole body being developed into a true fibro-myoma, including the fundus and both walls down to the cervix, one cornu being a little lower than the other. Its external surface measured as follows: The vertical diameter was four and one-half inches; the transverse diameter, from one cornu to the other, four inches. The anterior wall, on a level with the superior extremity of the internal vertical diameter, from the serous to the mucous surface, measured an inch and a quarter; the posterior wall two inches; and the fundus, from the serous to the mucous surface, one inch and three-quarters. The depth of the cavity, including the cervix, (which latter could not have measured more than one inch,) was two and one-half inches. The mucous surface was studded with the open mouths of blood-vessels, which looked like so many severed arteries, the diameter of the largest of these mouths measuring one-eighth of an inch. These were found in greater abundance in the fundus and internal os uteri.

Two months and a half after the death of the patient, the brain was carefully examined by Drs. H. M. Lyman and D. W. Graham. It was well preserved, had undergone no softening, but was hardened a little by the action of the preserving fluid—alcohol and water. No structural lesions or evidences

of diseased action were found. The efficient cause of the paralysis, therefore, must have been outside the cranium, and consequently must now remain a matter of opinion rather than of certainty.

NOTE BY THE EDITOR.—A microscopic examination of thin sections of the uterine tumor shows that it belongs to the variety known as "small-celled, spindle-celled sarcoma." Its histology is rather rudely illustrated in "Rindfleisch's Pathological Histology," page 138, Fig. 48. "The characteristic textural element," says Rindfleisch (*loc. cit.*), "is a short and narrow spindle-cell, with an elongated, roundish nucleus, with or without nucleoli." These little fusiform cells are woven together so as to form a dense, unyielding mass. The pointed ends are "dove-tailed," so that there are practically no interfibrillar spaces. There does not seem to be any intercellular substance, except that occasionally one is met with in which a finely granular deposit in very small quantity can be seen between the larger portions of the cells.

In structure the small spindle-celled sarcomas present a very striking analogy to the inflammatory new formations; and the resemblance is strengthened by the peculiar degenerations to which these tumors are liable. Again, they are far less likely to undergo cancerous metamorphosis than the other forms of sarcoma. These several facts have led some pathologists to believe that the small spindle-celled sarcomas are, sometimes at least, of inflammatory origin; that a long-continued chronic inflammation may result in either a local or diffused hyperplasia of tissue elements.

In Dr. Thompson's case the question may fairly be asked whether the general enlargement of the uterus was not purely a hyperplasia involving the muscular tissue of all parts of the organ.

Reported June 19, 1876.

## V.

### A CASE OF HYDATIDIFORM DEGENERATION OF THE OVUM IN A TWIN PREGNANCY.

By DR. NORMAN BRIDGE, FOR DR. R. M. LACKEY, OF MAYWOOD, ILL.

The patient in this case was a German about thirty-five



years of age. She had an angular curvature of the spine from disease of the vertebræ in childhood, but had nevertheless always enjoyed fair health. She had been pregnant once before the present experience, but had aborted at the eighth week. She had been married to her present—the second—husband but nine months. Dr. Lackey was called to her hurriedly, to find her apparently in the ninth month of utero-gestation and bleeding freely. The patient stated that for three months previous to his being called she had frequent profuse hæmorrhage, for which she was treated by a homœopathic doctor. She supposed herself to be only six months advanced in pregnancy. She had been flowing constantly for three days, and had feeble labor pains. She “was much exhausted from loss of blood and nervous irritation.”

On digital examination the os uteri was found only slightly dilated, barely enough to admit the index finger. The finger encountered a “soft, lumpy mass that occupied the lower portion of the cavity of the uterus;” through this “no part of a fœtus could be detected.” Dr. Lackey wisely judged that the only means of saving the patient’s life was to evacuate the uterus of its contents and secure contractions. Accordingly he administered ergot freely, and proceeded to dilate the os with his fingers. As soon as this was accomplished he grasped a handful of the soft mass and brought it away. It was composed of cysts varying in size from that of a pea to that of a pigeon’s egg, and filled with a fluid resembling the amniotic liquor. “Each had a pedicle, and was attached to a fibrous cord or stem so as to resemble a cluster of grapes.” This *stem* was the only part that was attached to the uterine wall. The specimen, to all appearance, was one of hydatidiform degeneration of the ovum.

Dr. L. continued to bring the mass away in handfuls, until with the last shred it measured over three pints. He discovered in the course of this operation that the uterus also contained what appeared to be a normal bag of water containing a fœtus. He promptly ruptured the bag, when “fully the ordinary amount of water escaped.” He at once found the feet, brought them down, and delivered the fœtus. It was

apparently six months old, and had evidently been dead several days. The placenta was removed manually; it was normal in appearance. Not until it was removed did the uterus make the slightest effort at contraction; it then contracted sufficiently to stop further hæmorrhage. "The patient was prostrated and exsanguinated after the operation, but gained rapidly and made a fair recovery." Dr. Lackey declares that there was not the slightest connection between the cysts and the placenta, membranes, or any of the normal contents of the womb." The attachment of the cystic mass to the uterine wall was a sufficient distance from the border of the placenta to make the doctor positive in his assertion that the two were in no way connected. Furthermore, he examined the placenta carefully after its delivery, to discover any possible point of connection with the degenerate ovum, and could find none.

This specimen does not differ from any specimen of a cystic degeneration of the ovum. There is nothing peculiar in the crude appearances of the cysts; but the case is interesting and peculiar, if not unique, in that there was evidently an ordinary twin impregnation, one ovum of which soon underwent the well-known cystic degeneration, the other going on in a normal course until the pressure of a large foreign body growing by its side, and the loss of blood resulting from the abnormal condition, led to its death.

The history of this case is made up from notes which Dr. Lackey has kindly furnished.

NOTE.—The specimen presented to the Society by Dr. Lackey consisted of a mass of cysts large enough to about half fill a morphine bottle. They varied greatly in size, the smallest being no larger than a homœopathic pellet, the largest about the size of a common marble. They were all balloon shaped, the small end of the balloon terminating in a long delicate pedicle, by which they were tethered in groups of ten to twenty. After being immersed in glycerine, alcohol and water a few days, the cysts became beautifully transparent, so that their minute structure could be easily studied. The cyst walls were composed of simple membrane, lined with a layer of rather small pavement epithelium-cells. The fluid contents

consisted of a clear serum, in which a few granular corpuscles floated, closely resembling the "gorged granules" found in ovarian fluids, except that they were smaller. A careful search was made for the hooklets of echinococci, but with only negative results. True hydatids within the uterus appear to be exceedingly rare, Rokitansky never having seen but a single case in which true acephalocysts were present, and that case still standing alone (?) upon the records. Dr. Lackey's case was one of true hydatidiform degeneration of the villi of the chorion, a change which is said not to occur after the third month of gestation. The appearance of a group of these cysts, and their anatomical relations to the chorion, is admirably shown by an illustration in "Hewitt's Diseases of Women," page 86, Fig. 3.

I. N. D.

Reported August 21, 1876.

## VI.

SUDDEN DEATH FROM OCCLUSION OF THE LARYNX BY A  
FRAGMENT OF COAL.

By DR. I. N. DANFORTH.

In the month of June, 1871, I was urgently summoned to see a boy who was said to be "choking to death." Upon arriving at the place indicated, which was but a few blocks from my residence, the boy was dead. From his parents I obtained the following history of the case: The boy was eight years old; he had always been strong, healthy and active; he had no cough or tendency to any difficulty of breathing; indeed, he had been foremost in games and sports among the children of his neighborhood. Not more than half an hour before his death he was sent on an errand to the neighboring grocery, and it was noticed that he carried a "blow gun," which happened to be the toy most in favor at that particular time. A few moments later he rushed into the house, his face distorted by agony and fright; he managed to utter in a hoarse whisper, "Mother, I'm choking," and immediately fell upon the floor. Two or three desperate but ineffectual efforts at inspiration followed, and he was dead. On the following morning I made an examination of the thorax and cervical

region, assisted by Drs. A. H. Foster and Norman Bridge. The lungs were perfectly healthy, so far as their own special structure was concerned, but they were congested to the last degree. The right side of the heart was distended by a soft clot of black blood; the left side was empty and almost spasmodically contracted. No hæmorrhage was found in any part of the chest, although it is said to be common in such cases, especially in the pleural and pericardial cavities. The trachea was intensely congested, and contained a large quantity of mucus, but no blood. In all other respects it was perfectly healthy. Upon removing the larynx and looking into it from above, a glistening black body was seen. When the larynx was opened, a fragment of hard coal was found firmly impacted in the laryngeal cavity, below the inferior or true vocal cords. The muscles of the larynx were in a state of intense contraction; in fact, so pronounced was this, that the foreign body could not be moved by means of a pair of dressing forceps, until the larynx was laid open. The fragment was composed of ordinary anthracite coal, of an irregularly cubical form, and presenting several sharp, protruding angles. It measured three-eighths of an inch in its smallest, by almost half an inch in its largest diameter, and weighed six grains. It seems almost incredible that a body so large and irregular could elude the never-sleeping vigilance of the epiglottis, and find its way through the rima-glottidis of a boy so young. A question of great practical interest presented itself in connection with the case, namely: How came the fragment of coal in the child's larynx. As I have already stated, when he went upon his last errand he carried a "blow gun"—apparently an innocent toy, but in this instance an instrument of death. The "blow gun" is a light metallic (usually tin) tube, fifteen or twenty inches long, and about half an inch in diameter. It is a kind of air gun, and is used in this way: A pea or bean is placed in the tube two or three inches from the end, the lungs are then inflated by a forced inspiration, the lips applied closely around the *opposite* end of the tube, and the inspired air is forcibly expelled, or blown through it; hence the name "blow gun." Of course the pea, bean, or other "projectile,"

is shot from the distal end of the tube with considerable force by the current of air, and may be so directed as to hit a target which is only a few feet distant. The danger of the "blow gun" consists in this: that a forced inspiration may possibly "draw" the projectile (whatever it may be) into the air passages, if the proximal end of the gun be held opposite the mouth when the act of inspiration is performed. Any one who has watched a child when he forcibly inflates his lungs, will readily understand this: the forced inspiration of a child is only comparable to the same act in *another* child. It was probably precisely in this manner that the accident I have been describing occurred. The child reached the grocery safely, did his errand, and started for home. On the way he passed a coal office, in front of which several samples stood in show-boxes; from one of these he took a little fragment and placed it in his blow gun, then holding the open end of the gun on a level with his open mouth, he forcibly inflated his lungs, and in so doing drew a rapid current of air through the gun. This column of air swept the piece of coal through the gun tube and into the child's larynx.

Reported September 21, 1876.

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## Editorial.

### THE CHICAGO BOTANICAL GARDEN.

Australia, which was peopled in the year 1870 by less than one million of inhabitants, can point to five botanical gardens established within its borders. There are five also in South America. That in Calcutta is more than one hundred years old, and covers two hundred and sixty acres of ground. Java possesses in the Buitenzorg, probably the largest garden in the world, as it includes two hundred and seventy-two acres of ground, and furnishes sites for plant culture at elevations from 4,500 to 10,000 feet above the level of the sea. Up to within a recent date there was but one botanical garden in North

America—that connected with the University of Harvard. We say but one, for it is well known that the Government gardens at Washington subserve chiefly the purpose of providing bouquets for members of Congress, while that at St. Louis—small, popular and showy—is scarcely adapted to the study of botanical science. The Cambridge garden, now seventy-five years old, is completely filled with collections obtained from the botanists of the United States; but its chief usefulness has been to enable Professor Gray to advance his botanical researches. It covers ten acres of ground, and to this space has been recently added the ground for an arboretum.

The Chicago Botanical Garden has been called into existence so noiselessly, and has accomplished its work thus far so unpretentiously, that there are many who will first learn of its existence from a perusal of these pages. Curiously enough, the largest number of those who are already familiar with its aim and labors, are residents in foreign lands.

The Chicago garden was created by the action of the South Park Commissioners, who organized a Board of Management, consisting of Judge H. N. Hibbard, Gov. Wm. Bross, and Messrs. E. H. Sargent and Albert E. Ebert. Prof. H. H. Babcock, the eminent Chicago botanist, was appointed Director. The garden is located in the southeast corner of the northern and western of the two south parks. Fifteen acres are allotted for the garden proper, which now contain plants arranged in their natural order; and sixty additional adjacent acres have been assured for further use. Three-fourths of this latter space will be occupied as an arboretum, in which the pines, oaks, maples, etc., will be separately arranged; and special provision will be made for medicinal plants, which will be also systematically grouped.

It is safe to say that a botanical garden was never before established which has, in a similar space of time, accomplished the results which the management now actually exhibit. Since the date of organization, on the 10th of April, 1875, 8,000 packets of seeds and living plants have been received here from England, France, Germany, Russia, Holland, Italy, Austria, Hungary, Java, Australia, Chili, South Africa (Cape of Good

Hope), Calcutta, and various portions of the United States, the latter chiefly from the garden at Cambridge. These represent about 6,000 living species. During this same time, also, about 2,000 packets of living plants and seeds have been exported to various parts of the world, principally in exchange to the countries mentioned above. It may be added that these exchanges have been eagerly sought for abroad, and that nothing could exceed the cordial and even enthusiastic support accorded to the Chicago enterprise, by strangers who have proved themselves friends in these remote quarters of the globe. As an illustration of this fact, it may be mentioned that it has actually been found to be more difficult to obtain collections from various parts of this country than from Java and South Africa.

To-day the four houses, heated by warm water, and so arranged that the temperature in each may be adjusted to a degree, are crowded to their utmost capacity. Many tropical plants have reached the glass roofs, and turned downward in accordance with the demands of a vigorous growth. Specimens of the *Eucalyptus Globulus*, grown from Australian seed twelve months ago, are now fully twelve feet in height. Among the medicinal plants to be seen, there are several varieties of hyosciamus, aconite and arnica.

This success has been largely due to the indefatigable labors of Prof. Babcock, who, prior to the inauguration of the scheme, dispatched 15,000 herbaceous specimens to Java, Belgium, Calcutta, Australia, Sicily and Chili; and the garden was not slow in reaping the reward of this generous insemination. The Board of Management were also fortunate in securing the services of a skilled gardener, who had served five years in the botanical garden at Kew, and had also been for five years in charge of the garden at Belfast, in Ireland.

A register of visitors, kept upon the grounds, records at present 327 names, representing a large number of gentlemen from outside of the city—those from Boston, Philadelphia, New York and Washington preponderating.

Our object in thus prominently calling attention to the Chicago garden is to aid in furthering the judicious aims of



the Board of Managers. The ultimate and permanent success of their scheme will depend largely upon the success which they achieve in awaking not only a popular interest in the botanical garden, which is eminently desirable, but also in securing the moral support and encouragement of men of culture and science in the city and its environs. Such success will involve the development, among the masses of our people, of a taste for horticulture and arboriculture, as well as of a tendency to seek that highest form of recreation from the cares of business, which is afforded by the direction of the mind to the practical study of natural science. In England and elsewhere, it is not rare to find clergymen, barristers and gentlemen eminent in various professions and stations of life, resorting to this class of studies as a source of recreation and amusement, and often they attain a truly remarkable degree of proficiency in their favorite science. Such a state of society will obtain more and more in this country, as capital accumulates its surplus, and the means of generous living are placed at the disposal of men in the middle ranks of life. In the territory around Chicago—a city destined without doubt to be the metropolis of a continent, its feet resting on a soil which is a treasure house of vegetable and mineral wealth, its arms reaching out to the embrace of an empire of unparalleled productive resources—such conditions as those described will inevitably arrive.

Meantime, we believe that we repeat the sentiment of the medical profession of our city in expressing the hope, that the South Park Commissioners will continue to support and extend the work of the Chicago Botanical Garden, in the liberal and far-seeing spirit with which it has been projected and thus far developed.

## Hospitals.

### SURGICAL DEPARTMENT, COUNTY HOSPITAL.

Service of DR. POWELL.

May 2, 1876. Dr. Powell presented and made remarks on the following cases:

1. *Scrofulous Abscess.*

A small spare man, middle aged. A lump the size of a child's head just below and external to the scapula; several weeks in coming. In the absence of all inflammatory symptoms there is good reason to conclude that it is simply a collection of matter there. Such abscesses are frequently called cold abscesses. Ill-clothed, and poorly fed people may have such collections. There is no need of a large opening. It is best simply to tap it and run a drainage tube through. It should occasionally be washed with some stimulating or disinfecting solution. Punctured, a stream of yellowish pus spouted forth like a fountain, half filling a quart basin.

2. *Encephaloid Cancer of the Left Thumb.*

An emaciated cachectic man, middle aged, a printer. His thumb got sore eighteen months ago. After trying everything, he had it cut off. It got well, but after six months the disease recurred. It is now as large as a man's fist—a pul-taceous rosy mass. We should remember that if a tumor or any sort of sore recurs after having been removed, no matter how, we have something serious. Cancers recur. No non-malignant growth presents an appearance like that. The odor is quite characteristic; we may recognize it anywhere. The sooner that is removed the better; for cancer cells are being taken up; they will be carried on further and further until we shall have the entire system poisoned. The operation should

go far away from the disease; then it will recur soon enough. Fortunately the glands in the axilla are not yet involved. The operation will be made just above the elbow. Esmarch's band must not be put on too low, lest we force up ill-conditioned pus.

1. *Fracture of Neck of Femur.*

May 5. An old man aged sixty-nine, just came in. He was injured yesterday by a fall from a sidewalk not more than three feet. He was picked up and carried home. Dr. P. proceeded to examine with reference to the nature of the injury, and first called attention to the expression of the limb. It was apparently a little bit shortened; there was a little fullness of the hip, and the foot was slightly everted. We are able to exclude all possible dislocations by just observing the limb. From the fact of the age, and his falling as he did, we are to suspect a fracture of the neck, for these fractures almost always occur in persons past sixty. Some surgeons say they can diagnosticate between fractures of the neck of the femur without and within the point of insertion of the capsular ligament. Nélaton used to say he would wait till the post-mortem. Sir Astley Cooper said he could not tell. We may exclude fracture of the shaft; beyond that it is, to say the least, a matter of extreme nicety. It will be well to speak with reserve as to the result in all these cases; for a fracture within the ligament is extremely inapt to unite. Those without, those partly without and partly within, and impacted fractures are disposed to unite. It is well always to say that probably it will not unite. It will be best to anaesthetize our patient. He will forever blame us for a bad result, and we shall forever have to face it. Dr. P. urged upon the class that they should know a good deal about fractures, saying that scarcely a month elapsed that some one did not come into the city with evidence of bad treatment or bad diagnosis. Measured from the ilium to the inner ankle, there was found to be half an inch of shortening. When the foot was taken in hand, there was pain produced in the hip and knee. The tro-

chanter rotates. There was a slight grating sound detected. Dr. P. remarked that it was not necessary to go any further. The fracture was within the trochanter. The treatment in either case should be the same. But it should be remembered that any injury about the hip in an aged person, as a sprain, might result in interstitial absorption of the neck of the bone. The head would then seem to rest on the shaft. So that no matter how great the caution, the result of even slight injuries may simulate the result of a fracture. Simply apply extension. The ordinary adhesive plaster is not so good as that spread on Canton flannel. Afterward a webbing support will be put around the hip and a splint to roll the thigh inward. Twelve weeks will be required to remove these supports.

2. *Fracture of the Forearm, Middle Third, Caused by the Kick of a Horse.*

Laboring man, thirty. This fracture is as troublesome as any, except perhaps Colles' fracture, for there is so likely to result loss of pronation and supination. There is frequently thrown out a bony nodule between the bones. No surgeon can prevent that. In all such fractures of the forearm we simply want two splints, and we adapt them by making them a little wider than the arm. Set aside scientific or medical education and simply apply mechanical common sense. We want a splint that takes hold of the elbow and hand. The splints want to be exceedingly well padded with sheet batting, or what is better, folded strips from an old sheet, made to come well over all the corners. It is advisable to smear a little starch over it, if the patient lives at a distance, or is a little child. If there should be a tendency of either end of the bone to fall out of place, a little compress is required. The setting is simply to take hold and make it as near like the other limb as possible. Bandage lightly. At the end of two or three days look at it. Thenceforth if there is no deformity let it alone. Better leave the dressing on for six weeks.

1. *Fracture of Lower End of the Radius.*

May 9. An old lady fell on the stairs and struck the palm

of her hand. The radial border of the forearm is seen to be shortened, drawing the hand to one side, and giving a prominence to the ulna. In an old person such a fall will generally produce a fracture of the radius. In a young person it will cause either a fracture or a dislocation of the elbow. We have a Colles' fracture. These fractures are exceedingly interesting from the difficulty of treatment. We are liable to have more or less deformity. Dress the hand just as the arm was dressed (May 5th). But there must be a large pad in front or there will be a projection forward. A little extension and moulding is all the setting it can receive. She will have to wear the splints five or six weeks, but she will come back a week from to-day. If any thing happens to prevent her return on that day, we shall have to send for her, for these cases must not be neglected, lest they fall into some unscrupulous hands and we be blamed for the deformity. There are more trials for malpractice with this and injuries of the elbow, than all other causes put together.

2. *Fracture of Forearm, dressed four days ago.*

Dr. P. remarked that he would remove the dressing to see if it was all right, although it could hardly be necessary yet. The position was as good as it could be; but a little compress might be needed on the outer surface of the arm, for there appeared to be a slight bowing upward. The compresses should be made of cloth, for that does not yield so much as batting, which may be used to line the splint.

3. *Injury of the Elbow.*

(April 25. Dr. Bogue.) Dressed at first with adhesive strips and pully, the weight of a brick being added. During the hurricane which unroofed the hospital the evening of May 6th, he betook himself to flight, carrying the brick with him. A good reason for not dressing these cases in the straight position is that the biceps is made taut. Only in fractures of the olecranon process is it admissible. Only fourteen days have elapsed since this injury, but it is fair to presume that

the swelled muscles will act as splints. Hereafter all dressings will be left off. The arm will be bent and placed in a sling, and movement will be required each day to preserve as good a joint as possible.

4. - *Paralysis of the Extensor Muscles of the Forearm and Hand following Convalescence from Fracture of the Humerus Middle Third.*

This case came in March 3d. It ordinarily takes longer for convalescence to become complete than for the bone to unite. The treatment here is passive motion effected by an india rubber cord attached at one end to the arm and having a loop at the other for the insertion of the fingers. He is instructed to resist the tension of the band. The paralyzed muscles are regaining strength by a kind of Swedish movement cure.

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#### NOTES OF CASES IN MERCY HOSPITAL.

Service of PROF. E. ANDREWS.

1. *Strangulated Hernia.*

Operation. The patient, a man aged thirty-five years, was admitted for mechanical obstruction of the bowels, which had existed fifty hours. A small inguinal tumor existed, but so insignificant that it was doubted whether it was the true cause of obstruction. Ether having been given, efforts were made to reduce it by taxis, but failed, as a similar attempt by Dr. W. Blanchard had done before admission. Prof. Andrews therefore proceeded to perform herniotomy, when a very small but tightly constricted portion of intestine was found, blacker in color than the average of strangulated intestines, but having no odor or feeling of gangrene, and apparently containing little or nothing which our aspirator could have withdrawn. The gut was probably forced through the ring in an empty state by some sudden and powerful action of the abdominal muscles. The stricture being cut, the intestine was returned, and the wound closed, and the patient made a rapid recovery. It is remarkable that this operation in Chi-

cago has a much greater success than has been experienced elsewhere. Out of thirty-four cases only eight died, equal to twenty-four per cent., while in the Atlantic cities, and in Europe, the mortality is about fifty-four per cent. of all the cases. In the hospitals of Paris the mortality attains the frightful figure of sixty-eight per cent., which is probably due to the fact that septic diseases are less guarded against there, than in any other great hospitals in the world. In Chicago the patients rarely delay long in sending for help. With the usual wide-awake tendencies of a new city, they call a surgeon at once, and if an operation is needed it is done immediately at the house, so that these cases rarely appear in the hospitals. This promptness is one of the great causes of safety, as delay adds hourly to the danger.

## 2. *Colotomy.*

The patient, a woman, aged about thirty-six, was admitted for cancer high up in the rectum. The growth of the tumor had obstructed the gut so as to render defecation very difficult. Ether was given, and an attempt was made to rupture the cancerous stricture, but owing to its high location it could not be done with any force which it was safe to use. A week or two now elapsed, when it was found that the progress of the disease had rendered the obstruction nearly total. The abdomen was greatly distended, and the patient seemed rapidly failing from the effects of the obstruction. She was again anæsthetized, placed face downwards, with the abdomen across a large pillow. The colon was then exposed in the left lumbar region, behind the peritoneum by the usual incisions. The gut was emptied of its gas by a trocar, and then opened and stitched to the skin. No evil effect followed, and the relief from obstruction was complete. The cancer, of course, is not cured, but the patient is in comparative comfort, and does not experience any of the horrible inconveniences from the artificial anus which some authors describe. The orifice is prevented from leakage of gas and other contents by a water-proof pad. Gross discourages the operation, and thinks it better to let the patient die. Bryant, of England, on the



other hand, says that the patients are surprisingly comfortable, and enjoy life well—a remarkable case of contradiction of opinion between two men eminent for sound judgment. The published statistics fail to show what is the real danger of the operation, because the compilers have included in one mass the patients who died of the operation itself and those who died afterwards of the cancers for which many of the operations were performed. This is a blunder which shows how infantile the important science of statistics still is. The operation is reckoned among the more difficult ones of surgery, but it is by no means overwhelmingly so, and when skillfully performed, is probably not very dangerous.

### 3. *Fracture of the Spine.*

Recovery. This patient received a fall, fracturing the dorsal region of the spine, and causing a visible projection at the point of injury. Fortunately the displacement was not sufficient to compress the spinal cord, and no paralysis occurred. He is recovering simply by being placed on his back in bed. Occasionally we see these cases of spinal fracture without injury to the cord. When they occur the patient usually recovers with little more trouble than if a limb were broken.

### 4. *Fracture of the Spine with Injury to the Cord. Death.*

This patient, aged about fifty, came in with fracture of the upper half of the dorsal region, total paralysis of the whole body below, and also fracture of the right thigh. Within a week he recovered partial sensation to the touch in the lower extremities, but not the motive power. Apparently the posterior columns of the cord were not entirely destroyed. He was placed on an air bed with extension on the broken thigh. Death occurred from general failure of health during the fourth week. There was no commencement of union in the fractured femur.

### 5. *Operation for Angular Deformity after Fracture.*

This patient came in with the upper third of the leg bent at an angle of twenty degrees in consequence of a former

fracture. On being anaesthetized the union was too firm to yield to any reasonable force. A wedged-shaped piece was therefore sawn out of the tibia, and the fibula sawn across. The limb was then placed in a straight position and is now well advanced toward recovery.

6. *Abscess in the Medulla of the Femur; Consequent Caries of the Knee. Amputation of the Thigh.*

This patient entered with an inflamed knee, and a fistula discharging matter just above it. No dead bone could be reached by the probe. The knee rapidly became worse, and on being laid open was found carious. Being etherized, amputation was performed above the knee. On sawing across the shaft of the femur, the medullary cavity was found filled with pus, which extended five inches above the knee, where a growth of solid bone plugged the cavity and prevented effusion upward. Another section was taken from the femur in order to remove the whole of the disease. The outlet of the cavity was in front of the femur opposite the upper edge of the patella, from which point the pus burrowed into the joint. The patient is making a good recovery.

7. *Compound Dislocation of the Ankle. Resection of the Joint.*

Accidental violence drove the lower end of the tibia through the skin on the inner side, and the attending physician found it impossible to maintain a reduction. After some weeks the patient entered hospital with the end of the tibia still protruding from the wound. Ether was given, and the end of the bone exsected, when it was easily returned and retained. After a rather prolonged stay he was discharged, well advanced towards recovery.

## Book Reviews.

[NOTE.—All works reviewed in the pages of the CHICAGO MEDICAL JOURNAL AND EXAMINER may be found in the extensive stock of W. B. KEEN, COOKE & Co., whose catalogue of Medical Books will be sent to any address upon request.]

A TREATISE ON THE DISEASES OF INFANCY AND CHILDHOOD, by *J. Lewis Smith, M.D.*, Physician to the New York Infants' Hospital; Physician to the Catholic Foundling Asylum; Physician to the Protestant Infant Asylum; Clinical Lecturer Bellevue Hospital Medical College, etc., etc. Third edition—enlarged and thoroughly revised. Henry C. Lea. Philadelphia, 1876.

In 1869 the first edition of this book made its appearance. Although incomplete in many respects at the time, several of the more important diseases of children being unnoticed, it was well received by the profession. Prof. Smith's writings have been largely based "on clinical observations and the inspection of the cadaver." His connection with a number of childrens' hospitals and asylums have given him superior advantages in this respect, and some of the articles in his first edition were exhaustive; they have not been improved on by any author since.

Three years later a second edition was published, and the volume made more complete by the description of nearly twenty additional diseases, among which may be named diseases incidental to birth, rachitis, tuberculosis, scrofula, intermittent, remittent and typhoid fevers, chorea, paralysis, etc., etc. Many new formulæ were also introduced. And now, scarcely six years since the book first saw the light, a third edition, "enlarged and thoroughly revised," comes to us. Some of the old articles have been rewritten, and a few diseases, among which we notice rœtheln and cerebro-spinal fever, considered for the first time.

While it will be our purpose in this brief review to notice more particularly the newly described diseases, we can hardly refrain from speaking of the general plan of the work, a plan

which has been adhered to throughout all the editions, and making an occasional comment on the more important subjects.

Part I. has chapters on the following subjects: 1, Infancy and Childhood; 2, Care of the Mother in Pregnancy; 3, Mortality of Early Life; 4, Lactation; 5, Selection of a Wet Nurse; 6, Course of Lactation — Weaning; 7, Artificial Feeding; 8, Baths — Clothing; 9, Accidents, etc., Incident to Birth and Detachment of the Cord; 10, Conjunctivitis Neonatorum; 11, Diseases of the Umbilicus; 12, Umbilical Hæmorrhage; 13, Diagnosis of Infantile Diseases.

It is not customary, we believe, for authors to include many of these subjects in works on diseases of children, but, put in Prof. Smith's style they are exceedingly valuable. His facts and rules in reference to lactation; his remarks in regard to modification of the milk in consequence of diet — from retention in the breast, by age, mental depression, catamenial function and pregnancy, are of great importance to every young practitioner.

Any brief consideration of so important a subject as artificial feeding must necessarily be unsatisfactory, but a very large amount of needful information has been crowded into the five pages devoted to this subject. The author agrees with Prof. Jacobi that those kinds of food which consist largely of starch are suitable for young babies, and the experiments of Dr. Korowin, of St. Petersburg, comparing the action of the pancreas and parotids whose secretion chiefly digests starchy food, have been repeated by Dr. Smith. It seems to be fairly established that but very small provision is made in the young infant for changing starch into sugar, and that the general belief of mothers, nurses and some physicians, where interference with the normal food of babies is demanded, that potatoe, bread crumbs, or any other substance containing starch, should be used either alone or with milk, is erroneous. Such food remains unchanged, it cannot be digested, it is good for nothing but to produce colic.

Section 1, Part II., is taken up with the consideration of diathetic diseases, four of which are mentioned, viz.: rachitis, scrofula, tuberculosis and syphilis. The second named disease

is defined as characterized by increased vulnerability of the tissues, with a tendency to low grades of inflammation and hyperplasia of the lymphatics.

Eruptive fevers are considered under the next section.

The means by which scarlatina may be transmitted, and the extraordinary tenacity or permanence of the virus, are spoken of at considerable length. Neither of these subjects has received the attention, it appears to us, which its importance demands. Unless we doubt the truthfulness of such observers as Murchison, Louis, Thomas, Trousseau, and our author, it must be evident to all, that physicians, nurses and attendants may, and frequently do, carry the contagion. Mason Good believes that a box of toys was, in one case, the means of transportation; and one of the authorities named above is confident that a letter and a lock of hair have been carriers of this dreadful poison. This contagion also, whatever it is, adheres so firmly to ordinary material, and resists with such absolute success the common exposure to air and the usual means of purification and cleanliness, that unusual care should be exercised if we expect to destroy its vitality. In the practice of Dr. Kearney Rogers, infection followed a visit to the apartments, three and a half months after the disappearance of the disease in other patients. Richardson believes that the contagion became so fixed in the thatch of a house that infection followed more than five months after the occurrence of the first case, and Hildenbrand's coat is said to have retained the contagiousness one and a half years.

In regard to the treatment, especially of broncho pneumonia of measles, our author does not speak of what the Germans declare the most advantageous method, *i. e.*, hydrotherapeutics. In malignant forms of scarlet fever, however, with a temperature of 105° or higher, the antipyretic virtue of quinine is acknowledged and its employment advised. The cold affusions recommended by Trousseau, and whose testimony is that he never administered them without deriving some benefit, are regarded by Prof. Smith as liable to produce shock in young children, and perhaps other important and unfavorable complications.

The disease rœtheln is rare, perhaps new in this country. An epidemic of this peculiar malady has recently prevailed in New York city, and we are given the author's experience in it. A most interesting diagnostic syllabus of this disease, scarlet fever and measles, by one of the associate editors of this journal, having appeared in the April number, it seems superfluous to say more in regard to this affection. Among the authorities cited, the name of Prof. J. L. Smith appears frequently.

The most important disease considered in the next section, the *non-eruptive contagious* and embracing diphtheria, pertussis and parotiditis, is the first named. The author remarks in his preface that diphtheria has become a disease of great importance in this country, and \* \* \* the most fatal malady of childhood in the localities where it prevails. Much study has evidently been given to this subject by Prof. Smith, and the article almost entirely rewritten. Great research has been made during the last few years concerning the nature of diphtheria, its cause, etc., etc. Not only have very careful clinical inquiries been made, but the microscope has been called to the aid of our investigators. The relation of *vegetable organisms to diphtheria* is now a very important question. Oertel claims that vegetable parasites throng all diphtheritic membranes, incisions, ulcers, etc.; fill the blood and lymph vessels; appear heaped up in the uriniferous tubules, inducing, in a way he explains, septicæmia and that long train of secondary affections so frightful in their near and remote results. The same author quotes Eberth — "without micrococci there can be no diphtheria." Oertel also claims that diphtheria is first always a *local* and then a *general* disease.

Prof. Smith, with his friend, Dr. Heitzmann, "a most excellent microscopist," have lately tried to verify the facts obtained by the German microscopists and pathologists. They find the bacteria, but in *non-diphtheritic* deposit as well as in true diphtheritic exudation. He says, page 221: "The micrococcus in the inflammatory product upon the fauces certainly does not indicate disease of a specific nature," and he believes that it is possible that Oertel and his advocates have mistaken

a consequence for a cause. The treatment advised is not materially different from that which has given the profession in the West the best results, viz.: Tr. ferri chl., quinia, chlorate potass, internally; carbolic acid, liq. ferri subsulph., etc., as local applications.

In regard to the use of quinia in whooping cough, the author remarks that it has been prescribed for a considerable number of children in the Catholic Foundling Asylum, without diminishing materially the severity of the cough. It will be remembered that Dr. B. F. Dawson advocates very strongly the value of quinia in *curing* the *whooping* of this disease.

Of the general diseases mentioned in section four, and including malarial, typhoid and cerebro-spinal fevers, rheumatism and erysipelas, nothing special demands notice. The author believes, with other writers, that rheumatism is not as infrequent among children as commonly supposed. Many affections called by the people "growing pains," etc., have been rheumatic, and oftentimes are followed with cardiac complications. "The disease at this age (in infants) may be so obscure, or latent, as to be overlooked even by good diagnosticians."—p. 307. If the article had been written in June of the current year, the author might have mentioned salicylic acid in the treatment. It appears to be of decided value in this disease.

Part III. occupies 147 pages of the book, and is devoted to diseases of the cerebro-spinal system. All the diseases usually included are here well described—the article on tetanus being particularly elaborate. Hydrate of chloral seems to be the remedy preferable, one physician stating that he has saved fifty per cent. since commencing its use. The tr. of calabar bean has also been praised by recent authors.

The next section, devoted to diseases of the respiratory organs, is exceedingly clear and very instructive. The article on pneumonia is especially good. The author prefers aconite to control the action of the heart, and believes it less depressing than veratrum viride. We have occasionally seen this effect from the veratrum, but when its action is closely watched



by some one competent to count the pulse, it has given us the happiest results.

The pathological results of dentition are pointed out in the section given to diseases of the digestive apparatus, and the moderate use of the gum lancet suggested. Under the head of Indigestion, and when speaking of pepsin, he says: "Boudault's, from Paris, has been most used in this country, but the American preparations are probably equally good." When he prescribes it, he gives to an infant of three months, three grains combined with the same amount of subnitrate of bismuth. Query: Is pulv. *creb.* comp. c. opio a preparation peculiar to the East, or have we found an error?—p. 631, line 40.

The term *cholera infantum* is employed by our author "to designate only that form of infantile diarrhœa in which there are frequent watery stools, accompanied by vomiting, great elevation of temperature, and rapid and great emaciation." We earnestly commend this definition to a class of gentlemen in our midst professedly practicing a partial system of medicine, who always have an immense number of cases of *cholera infantum*, and none of simple diarrhœa and enterocolitis.

The consideration of cyanosis, and a few of the more important skin diseases, bring us to the end of the volume.

In conclusion, we have nothing but good words for Prof. J. Lewis Smith's book. Taking everything into consideration, we believe the present edition is the best work on children's diseases in the English language.

C. W. E.

STATISTICS, MEDICAL AND ANTHROPOLOGICAL, OF THE PROVOST-MARSHAL-GENERAL'S BUREAU, DERIVED FROM RECORDS OF THE EXAMINATION for Military Service in the Armies of the United States, during the late War of the Rebellion, of one million Recruits, Drafted Men, Substitutes, and Enrolled Men. Compiled under the direction of the Secretary of War, by I. H. Baxter, A.M., M.D., Colonel and Chief Medical Purveyor United States Army, late Chief Medical officer of the Provost-Marshall-General's Bureau. Government Printing Office.

These two large quarto volumes have been prepared under the supervision of Dr. I. H. Baxter, and contain so much

valuable matter in so condensed a form that a very elaborate review would be necessary to express even generally the results of his analysis.

For the first two years of the war the enlistments were under the control of State authorities, but, this method proving inadequate, Congress, March 3d, 1863, created the Provost Marshal-General's Bureau, and ordered an enrollment of all persons liable to military duty. During the existence of this bureau four drafts were made, which furnished records of 605,045 examinations. The number excepted was 155,780, or a ratio of 257.39 per thousand. During the same period, 225,000 volunteers and 80,000 substitutes were examined; of the former a ratio of 221.63, and of the latter 264.17 per thousand were rejected. The plan of giving millesimal ratios is continued throughout the work, and makes the records easy of comprehension and comparison one with another.

The first volume opens with an introductory chapter, in which are detailed the recruiting regulations of the United States since the formation of the army, and those now in force in various foreign countries. The importance of comparing these regulations, and adopting the most stringent, is shown by the fact that in time of peace 7 per cent. of the fighting men of the English army are in the hospital, while in the peninsular war there were 21 per cent., and in the Crimean war 39 per cent. During our own war from 7 to 17 per cent., were incapacitated from service.

The last section of this chapter is devoted to anthropometry, and besides containing an excellent bibliography, has an extensive review of the whole subject. The total number of men credited on the several calls made by the President from the beginning to the end of the war, and put into actual service, was 2,762,401, and when the total rejected men is added, some idea may be formed of the opportunity afforded for the measurement and examination of the human body. The method of adopting some one portion of the human body as a modulus, and determining its remaining proportions by their supposed relation to this unit, is found to be almost invariably erroneous. But these variations arrange themselves in groups which follow

numerically the law known as the law of the co-efficients of the binomial. The conclusions arrived at by the most eminent investigators in this branch of science are as follows:

1st. There is a perfect form or type of man, and the tendency of the race is to attain this type.

2d. The order of growth is regular towards this type.

3d. The variations follow a definite law, the law of accidental causes.

4th. The line formed by these variations is the curve known as the binomial.

A review of the tabular statements contained in the second volume follows, and the elementary conditions which enter into comparison with each other are: height, girth of chest, expansion of chest, age, weight, complexion, nativity, social condition and locality. The comparisons of each of these with the others, and a consideration of their relation to disease, may be stated as the scope of this report. The nomenclature of diseases adopted by the Royal College of Physicians and Surgeons in 1869, is employed with some modifications.

To determine the mean national stature, it is necessary first to decide as accurately as possible when man attains his full height; and the statistical results from over 190,000 examinations, showing the relation of height, girth and expansion of chest to age, indicate that the white natives of the Northern States do not attain full stature till between thirty and thirty-five years of age, while the Germans attain their full height at from twenty-five to thirty. The experience of other nations demonstrates the important bearing of this fact on the claims of the government for military service. In 1868, M. Champouillon, in the department of the Seine, had occasion to re-examine those who had been exempt in 1864, 1865 and 1866, and he found that of one hundred men who had been rejected in 1864 as below the standard, seventy-one had attained the requisite height in 1868; of the class of 1865, fifty-five men; and of the class of 1866, forty-five men.

A table showing the order of superiority in mean stature of twenty-four nativities, confirms the ethnological axiom that blond races are characterized by superior stature. The United

States Indian, with a mean average of 67.93 inches, stands at the head of the list; the United States whites are second; England, with an average of 66.57 inches, is eleventh; Germany twelfth, and France eighteenth, while Portugal is last of all, with an average of 65.43 inches.

An examination of the gradation in mean stature of the different States, places Kentucky, with an average of 68.67 inches, first, and Connecticut, with an average of 66.58 inches, last; the Western States generally having a higher mean average than the Eastern.

In measurements of the chest the man was naked, and the tape pressed evenly upon the nipples in front and the angles of the scapulæ behind, and the term "mean girth of chest," is to be understood as meaning at completed expiration. It was an interesting question to determine whether the development of the thorax increased in regular relation to increasing height, and such relation was not found to exist when comparing the mean height and mean girth of chest of all nations, or of the different States of the Union, but when each race is taken separately it is seen that the girth of chest increases as the height extends, with a regularity which would almost admit of a calculation by arithmetical progression in place of actual measurements. The records of the expansibility of the chest are extremely copious, and prove that the mobility of the chest also increases in arithmetical progression with increasing stature. Three inches was found to be a healthy mean expansion, but these records exhibit many instances of expansion of chest reaching seven inches. A remarkable instance of great expansive power was observed in a native of New Jersey, who was 28 years of age, 64 inches tall, 114 pounds in weight, and had an expansive power of seven inches. Among the cases of very limited mobility was that of a man who was 65½ inches tall, weight 125 pounds, and had an expansion of hardly half an inch. In 501,068 examinations of all nationalities, whose mean height was 67.30 inches, and mean circumference of chest 33.53 inches, there was a mean expansion of 2.78 inches.

We would naturally expect to find that the mean age of the volunteers would be lower than the foreign born, or men con-

scripted, and of 190,000 men accepted, one-fourth were under twenty years of age, while the mean age of the whole number was 26.24: Only a few returns of weight were made, but from 1,000 observations, the mean weight was 140.91 pounds, the maximum being 220 pounds, and the minimum 100 pounds.

The term military aptitude expresses the union of all the conditions of admissibility into military service, and has been much employed by European writers. It is a statement of the number in the thousand of young men of twenty who are found fit for the army. Our statistics do not admit of comparison with European nations, as men of all ages between eighteen and forty-five years were enrolled; but we find that of 5,020,942 men enrolled, 3,807,432 were found fit for service, which makes the military aptitude of the nation for all ages, 760 in the thousand.

The next part includes sixty charts and eleven tinted maps; the former picturing to the eye the most interesting results of the tables, by representing numbers by lines, which bear the same relation, in linear measurement, to each other as do the numbers for which they stand. Twenty-four charts show the relation of various diseases to social condition, complexion, age, height and nativity; ten, the relation of disease to occupation; twenty-four, the relation to locality (by States), and two charts exhibit the relation of both, height and girth of chest to age and nativity. The maps show, approximately, by gradation of color, the prevalence of certain diseases throughout that part of the United States wherein the drafts were enforced. The charts show that married men were, as a rule, much more affected than the single; that men of light complexion were found more affected than the dark; that, as a general rule, the older men furnished a larger ratio of rejected, and lastly, that the ratio of rejections increases with the increase of height.

Of all nativities the Indians of the United States were found the most healthy, while Mexico suffered more from disqualifying diseases than any other country. Something remarkable is the close grouping of the English speaking countries, as we find in the list of twenty-four nationalities,

arranged in the order of healthfulness, that England stands No. 12, and the United States (white) No. 13, while Ireland, Wales and Scotland are Nos. 10, 11 and 14, respectively.

In studying the charts in relation to disease and occupation, we observe a steady and regular increase of disease as we ascend the social scale from the unskilled laborer to the professional man. Certain occupations which have generally been considered very unhealthy are shown not to be so on examination; for instance, the tobacconist and liquor dealer are found to be more healthy, as regards their digestive and nervous systems, than the dealers in other merchandise, and in fact than the average for all occupations. Lawyers are more subject to disease than men of any other profession, while editors suffer most from phthisis pulmonalis and more than the average with diseases of the digestive system. The musicians are shown to be the healthiest as a class.

The third and last part consists of reports of surgeons of the board of enrollment, and gives their judgment upon the fitness and sufficiency of the enrollment laws, together with a graphic account of the physical characteristics and the social and hygienic condition of the inhabitants of their respective districts. The portions of the report most interesting to the medical profession, are the accounts of the prevailing diseases of each district, with the accompanying explanation of the etiology; but the special value of these reports lies in the fact that they furnish a comprehensive view of the nosography of the Northern States, taken simultaneously by competent observers.

The first volume closes with an exhaustive and well arranged analytical index. An edition of five thousand copies of this work has been published, and its distribution is reserved to members of the present congress.

H. H.

THE CHICAGO MEDICAL REGISTER. For 1876-7. Published under the supervision of the Chicago Medico-Historical Society. D. W. Graham, A.M., M.D., Editor. Chicago: W. T. Keener, Publisher. 1876.

This most commendable publication appears this year in a

more tasteful style than it did a year ago—with cloth covers and fine heavy paper—and it appears earlier. It is a little book of twenty-eight pages, and in the present edition all matter has been excluded except the list of regular physicians and of the officers of the society. The make-up of “the list” is sufficiently indicated by the title, which reads as follows: “Physicians in Chicago who have been accredited to the Chicago Medico-Historical Society as in good and regular standing according to the Code of Ethics of the American Medical Association, and whose names are liable to excision from the list for violation of the Code.” The list contains three hundred and fifty-three (353) names, and it probably more nearly approaches the ideal of what the society would make it than has any previous edition.

The Medico-Historical Society is to be congratulated on the persistent and very sensible way in which it has prosecuted its work, and—in this age of fallible men and women—on results with so few imperfections as it this year presents. The editor is to be especially congratulated.

The list of officers is as follows: President, Thos. Bevan; Vice-President, E. L. Holmes; Treasurer, R. G. Bogue; Secretary, P. S. Hayes; Diarist, S. Wickersham. Publication Committee: E. Ingals, John Bartlett, F. C. Hotz.

## BOOKS AND PAMPHLETS RECEIVED.

### BOOKS.

Chirurgie-Antiseptique, principes, modes d'application et résultats du pansement de Lister. By Le dr. J. Lucas-Champonnière.

A Manual of Percussion and Auscultation; of the physical diagnoses of the lungs and heart, and of thoracic aneurism. By Austin Flint, M.D., etc.

A Manual of Midwifery. Second American, from third London edition; revised and enlarged. By Alfred Meadows, M.D., etc.

The Theory and Practice of Medicine. Second American edition. By F. T. Roberts, M.D., etc.



- On Tracheotomy, especially in relation to diseases of the Larynx and Trachea. By W. Pugin Thornton, Surgeon, etc. Diseases of the Bladder, Prostate Gland and Urethra, etc. Being the fourth edition of the "Irritable Bladder," revised and enlarged. By Frederick James Gant, F.R.C.S., etc. Hay Fever, or Summer Catarrh, etc. By Geo. M. Beard, A.M., M.D., etc. Studies, chiefly clinical, on the non-emetic use of Ipecacuanha, etc. By A. A. Woodhull, M.D., etc. Physicians' Visiting List and Complete Pocket Record. Prepared by James I. Hale, M.D., Anna, Ill. 1876. Transactions of the College of Physicians of Philadelphia. Third Series. Vol. II. 1876. A Treatise on the Science and Practice of Midwifery. By W. S. Playfair, M.D., F.R.C.P., etc.

PAMPHLETS.

- Report on Vaccination, being an inquiry concerning Human Vaccine, Vaccino-Syphilis and Animal Vaccine, etc. By Wm. B. Davis, A.M., M.D., etc. A Clinical Lecture on the use of Plastic Dressing in fractures of the lower extremities. By D. W. Yandell, M.D., etc. Transactions of the Medical Association of the State of Missouri. 1876. An Address on some of the leading Public Health Questions; with remarks on the extent of swamp lands in the United States and their reclamation as a sanitary and economic measure. By J. M. Toner, M.D., etc. Annual Announcements for 1876 of the National Medical College of the Columbian University, Washington, and Hahnemann Medical College and Hospital, Chicago, Ill. Report of the Committee on Medical Education, made to the Medical Society of the State of California. By J. F. Montgomery, M.D., Chairman, etc. 1876. Transactions of the Medical Association of the State of Alabama. 1876. Western North Carolina as a health resort. By W. Gleitsmann, M.D. 1876. The Climatotherapy of the American Mountain Sanitarium for Consumption. By S. E. Chaillé, A.M., M.D., etc. 1876. Third Annual Announcement of the College of Physicians and Surgeons of Indiana, Indianapolis. 1876-7.

## Summary of Progress in the Medical Sciences.

### I. OBSTETRICS.

#### 1. *Triple Pregnancy.* LERICHE. (*Lyon Méd.*, July 9, 1876.)

A woman, in her third labor, was delivered of a male infant at 4:30 p. m., another at 5:30 p. m., and a female child at 6:30—the first presented by the vertex, the second by the breech, and the third by the shoulder. The first child seemed to be at term; the second had the development of a fœtus at eight and a half months; and the third of seven, or seven and a half months. All were vigorous and well formed. The placenta weighed 510 grammes. It was divided into two unequal masses, united by a common cotyledon. The smallest mass, which was symmetrically rounded, gave origin to an umbilical cord of ordinary volume, forty ctm. in length. This was attached to the first child. The other placental mass was larger and furnished two cords, each like the first having a distinct amniotic cavity. The smaller of these, thirty-six ctm. in length, was attached to the second child. The third, (corresponding to the third infant,) was slender and varicose, but thirty-three ctm. in length. It was inserted upon the external border of the placenta. The two cords which emerged from the same placental mass were attached to fœtus of a different sex.

### II. GYNECOLOGY.

#### 1. *Metastasis of Mumps in Women.* DAMOREST. (*Lyon Méd.*, No. 22.)

The author, in view of the recognized sympathy between the parotid glands and the genitalia, refers to the fact that, in women, metastasis occurs rather to the mammary and vulvar glands than to the ovaries, while in boys the testicles are affected. He reports two cases showing that the ovaries may be involved when females are attacked by mumps. Yet Trousseau, Grisolle and Niemeyer never noted such an occurrence; and Meyner, (*Gaz. Méd. de Lyon*, 1866,) publishes but one observation of the same. In the author's first case the parotiditis supplemented the menstrual flow, and the same was observed in the second case. In the latter, also, there was ovarian pain, and tenderness on both sides, with fever. Damorest concludes by remarking that it would be interesting to know whether, after such an attack, a young girl could become a mother.

#### 2. *Formation of Vagina without employment of Cutting Instruments.* LE FORT. (*L'Union Méd.*, No. 91.)

A woman twenty-six years old, had suffered from general disorder at the menstrual periods since her fifteenth year. In consequence of the absence

of the vagina, the menses had been replaced by supplementary hæmorrhages; hæmoptyses, bleeding from the integument of the limbs, excessively painful and often intolerable epistaxis. In 1872 she entered La Pitié, where Labbé performed ten operations with the only result of creating a vulvar infundibulum a few centimetres in depth. Discouraged by this failure, the patient left the hospital after a sojourn there of eighteen months. But the pain and supplementary hæmorrhage continuing, she entered the Beaujon in July, 1875, where M. Anger succeeded LeFort, and performed the eleventh operation, which increased the depth of the infundibulum, but was followed by a severe attack of pelvi-peritonitis, which compelled LeFort to suspend interference until January, 1876.

He then operated by introducing a boxwood cylinder terminating in a metallic knob placed in connection with the positive pole of a battery of small elements, with sulphate of copper. The negative pole connected with a metallic disk surrounded by moistened linen and resting upon the abdominal surface. This weak current is not perceived by patients and only produces an eschar which is small in the immediate contact of the metallic rheophors. The apparatus was placed *in situ* every evening and kept there all night. Little by little the stem made a way for itself in the vesico-rectal septum, and, on the 26th of February it had penetrated as far as the cervix uteri. Then, for the first time, the patient experienced, at her menstrual epoch, a moderate flow of blood from the vagina; though the latter still escaped with difficulty as there was conjointly abdominal pain and slight hæmoptysis. But the treatment having been continued for another month, a canal was formed of sufficient size, and menstruation has since become painless, normal, and perfectly regular.

After two months stay at Vesinet, in consequence of a pneumonia with which she was attacked, the patient re-entered the Beaujon July 1st, and the treatment was renewed—this time for the purpose of giving to the vagina a sufficient size. Finally, on the 29th of July it was possible to establish, by the aid of the speculum, a small and irregular cervix ten centimeters in depth. An hysterometre introduced by the orifice of the neck, penetrated to the extent of six and a half centimeters, the uterine cavity being consequently of normal length. The result, therefore, is complete. In order to render it permanent, and to prevent the retraction of the artificially formed canal, it will suffice for the patient to introduce nightly an intra-vaginal pessary in the form of a cylindro-conical stem of box-wood or ivory—"that is," (adds the French author, with characteristic naïveté,) "in default of those physiological measures which her years might permit."

3. *On the Treatment of Uterine Affections by Hydrotherapy.* DERIVAUX.  
(Thèse de Paris, No. 190.)

Here are the author's conclusions upon the employment of cold water in uterine disorders:

1. Hydrotherapy should be regarded as the basis of treatment in both

the first and second stages of chronic parenchymatous metritis. With it should be often associated the employment of the actual cautery. It has no direct curative action upon ulcerative folliculitis, but hastens the cicatrization of ulcerations, caused by uterine engorgement.

2. Hydrotherapy is a most useful and necessary auxiliary in the treatment of chronic metritis involving the mucous membrane. By revulsion and derivation, it overcomes the two most serious symptoms of the disease, viz., metrorrhagia and uterine leucorrhœa. Its efficacy in hæmorrhage renders it a precious palliative in the gravest affections to which the uterus is liable—fibromata and carcinomata.

3. By its general restorative action and its local tonic effect upon the suspensory ligaments, hydrotherapy is always more or less remedial in hysteroptosis, and relieves its most painful sequelæ. When anteversion is caused by uterine engorgement, it procures reposition of the organ. But its action is most feeble in retroversion, and quite *null* in uterine inflexion.

4. Hydrotherapy constitutes the most efficacious treatment in amenorrhœa from constitutional feebleness, and dysmenorrhœa from a similar cause. In menorrhagia it takes precedence of all other therapeutic agents, and combats with success congestive and neuralgic dysmenorrhœas, and the disorders attending the menopause.

5. General and local nervous disorders, and the painful symptoms connected with uterine lesions, disappear under the influence of hydrotherapy even before the material local disorder is profoundly modified. The restoration of the general health is obtained by no medication with as much sureness and rapidity as by cold applications. And it may be added that the most advanced degree of marasmus will not permit us to think of any other therapeutic agent.

### III. THERAPEUTICS.

1. *Salicylic Acid*. PETERHAUSEN. (*Detroit Review*, September, 1876.)

Dr. H. P. V. Petershausen, reviewing the principal facts known in regard to salicylic acid reaches the following conclusions:

1. It is an excellent antiseptic when applied *externally*, and in surgery may take the place of carbolic acid on many occasions.
2. It is probably the best antipyretic now known, quinine not excluded, when applied internally.
3. As an internal remedy it has no antiseptic properties.
4. The best form in which it is given internally is sodium salicylate.

J. S. K.

2. *Local use of Bromide of Potassium*. COOMES. (*Cincinnati Medical News*, February, 1876.)

The bromide of potassium applied to mucous surfaces, is a local anæsthetic, although this effect is secondary unless used in weak solution, say

ten or fifteen grains to the ounce of water. The action of the bromide when applied to mucous surfaces in substance, or saturated solution, resembles that of caustic. Its effects upon mucous surfaces are not visible, like those of an ordinary caustic. It does not whiten the tissues, nor is its application painless, as is the case with many caustics. When applied to the schneiderian membrane or palpebral conjunctiva the pain is severe and of a hot burning character. The larynx and fauces are more tolerant of its action than the eye or nose, but the pain is similar in being associated with heat. The duration of the pain is never more than a few seconds. Applied to congested mucous surfaces, it discharges the distended vessels and increases the secretive action of the mucous follicles.

In papillary ophthalmia, commonly called "granular lids," the results of its action are similar to those obtained from the use of muriate of ammonia. It reduces the hypertrophy, increases the amount of secretion, and allays pain. Its anæsthetic properties alone give it an advantage over the ammoria.

In the treatment of nasal catarrh, where there is a dry condition of the membrane, the bromide in powder or saturated solution is an agent of great value. Where there is hypertrophy of the membrane lining the nasal cavities, with an insufficient amount of the normal secretions, a condition met with in proliferous inflammation of the membrane, insufflations of the powdered bromide, or injections of the saturated solution produce excellent results. By its use the secretions of the membrane are increased, congestion lessened, and a marked reduction made in the hypertrophied tissues. Its immediate effects in these cases of proliferous inflammation of the nasal cavities is to relieve the patient of that sense of "stuffedness" which is most always complained of.

For the last year and a half I have relied almost entirely upon the bromide of potassium as a local agent in the treatment of throat affections. It has but rarely disappointed me. The results which I have obtained from its use in this class of diseases have been most gratifying. In cases of acute tonsillitis and pharyngitis, it matters not whether in their incipency or in the advanced stages, a solution of the bromide of potassium, sixty grains to the ounce of water, applied with a mop, or with an atomizer every hour or two, will be found to produce well nigh complete relief. In cases of ulceration the open sore should be touched with carbolic acid or nitrate of silver. In but few cases will it be necessary to apply the escharotic a second time. Under this plan of treatment all the painful and distressing symptoms that attend such cases speedily disappear. In every instance the patients treated with the bromide expressed themselves as feeling a great relief immediately after the application of the drug. These statements have been verified by the rapid reduction of temperature in the affected part, the restoration of the functions in the mucous follicles in the vicinity, the disgorgement of the distended blood vessels, and almost an entire absence of pain during the whole course of the disease.—*Half-Yearly Compendium*, July, 1876.

J. S. K

## IV. DERMATOLOGY AND SYPHILIS.

1. *Tracheotomy in Extremis for Asphyxia from Syphilitic Laryngitis.* QUISE. (*Lyon Médic.*, No. 26.)

A patient with syphilitic antecedents had secondary laryngeal disorder, with subsequent complete aphonia and dysphagia. Suddenly the hoarseness, which remained after the aphonia was relieved, became aggravated, and asphyxia rapidly supervened. After two of these attacks he resorted to the hospital, and, on the night following his entry, a third attack produced insensibility. At 10 A. M. he was apparently dead—respiration was suspended, the face was turgescent and cyanosed, pulse imperceptible, insensibility absolute. Tracheotomy was performed with a single stroke, a double cannula inserted, and respiration gradually established, the patient during his restoration exhibiting convulsive phenomena of the face, limbs and trunk. One hour elapsed before he was restored to consciousness. An abundant purulent discharge escaped from the cannula for about two weeks, producing much disturbance of respiration, sleep, deglutition, etc.; but under the influence of the iodide of potassium this gradually diminished, and finally ceased, when the cannula was removed.

The laryngoscopic examination disclosed several white spots upon the vestibule of the glottis, a normal epiglottis, and thickened vocal cords, the right showing several small whitish points, with three small indentations of a light rosy hue, upon the border.

A second examination, twelve days later, disclosed a marked improvement in all these particulars. The patient was entirely relieved, except for the moderate vocal huskiness.

2. *Diagnosis of Pustulo-Crustaceous Syphilide.* HARDY. (*Le Progrès Méd.*, No. 33.)

The distinguished professor, in his clinical remarks upon the case of a woman affected with this disease, remarked that in scrofula the ulcerations are covered with a more voluminous crust, and have a special color. They are white or gray, or even black if a small amount of blood has been effused—never yellowish-green, as in this instance. In scrofula, also, there is œdematous swelling of the tissues in the neighborhood of the ulceration. When upon the face, the nose is increased in size, the upper lip is thick and projecting. In this instance there is, it is true, a slight degree of swelling of the skin, but it is dense and firm. Here also the tint is brownish or dark brown—it is not of a vinous color, as in scrofula. Besides, the lesions of scrofula are slow of evolution, requiring months and even years. It is rare that pustules are produced and cured as rapidly as in this case. Here the patient has almost had no treatment, and yet the disease has disappeared from the nose. If we had to deal with a scrofulide, we should find at this point ulceration and crusting in full activity.

Here also there is no history of scrofula. It is exceedingly rare that crofulous manifestations appear upon the skin for the first time after the

thirtieth or fortieth year, and even in that case there has generally been some predisposing accident to the tissues. The cicatrices seen upon the limbs of the patient are not scrofulous; they are characteristic of syphilis—small, shallow and smooth, very slightly depressed. The cicatrices of scrofulides are either projecting or deeply depressed, reticulated, and often present the appearance of keloid.

3. *Biniiodide of Mercury in Superficial Lupus.* GUIBOUT. (*Gaz. des Hôpit.*, Aug. 5, 1876.)

A female confectioner, thirty-seven years old, had upon the chin and the larger part of the left cheek a superficial lupus, or tuberculo-ulcerative scrofulide, which had lasted for fifteen years. No good results had been obtained from various local applications, including the actual cautery. The affection almost completely disappeared after five applications of an ointment consisting of equal parts of lard and the biniiodide of mercury. The cicatrices are still somewhat red, but are gradually losing this color. She stated that each application produced, about one hour afterward, an almost intolerable pain, which lasted for five or six hours. At the same time a great quantity of "reddish water" escaped from the surfaces attacked. The author states that the ointment produces a crop of ecthymatous pustules, which burst and form crusts. When these latter separate the skin beneath is found less swollen and more supple, while the ulcerated patches have begun to cicatrize.

The applications should not be too frequently repeated. Eight days after the first the patient referred to above was in an improved condition. The lupus itself had ceased to be painful. The cheek grew smaller, its normal volume was restored, cicatrization rapidly ensued, and is now perfect. Upon the skin nothing remains but a few rows of minute tubercles, upon which a layer of ointment has been spread.

4. *Syphiloma of the Tubercula Quadrigemina.* FIORI. (*Gaz. di R. Accad. di Med. di Torino*, Aug., 1876.)

The author reports the case of a young man, with probable syphilitic antecedents, who had a saber wound of the left parietal region, from which he recovered. Soon after he fell to the ground insensible, but was relieved after suffering from transient hemiplegia. Then followed peculiar spasmodic accesses, with decreasing intervals, in which the head was twisted to the left, and the entire body performed partial rotations to the left upon its vertical axis. In the later attacks there was no loss of sensibility, but the eyes were turned to the left, and the tongue, left labial commissure, uvula, pupils and sterno-cleido-mastoid muscles were manifestly affected.

The author analyzes the meaning of the various symptoms in the case, and compares them with the results obtained by the experiments and researches of Adamuk, Schiff, Ferrier, Hitzig, Fritsch, Brown-Sequard and others. He concludes that there was lesion of the tubercula quadrigemina, with possible arterial complication (especially at the outset), and localized



hæmorrhage. The treatment justified the diagnosis—at least in part. No improvement was had by the administration of bromide of potassium and chloral, or by hypodermic injections of sulphate of atropia. Complete cure was obtained after employment of mercury and the iodide of potassium, the patient leaving the clinic of the Royal University of Turin in a condition of perfect health.

## V. PHYSIOLOGY AND ANATOMY.

1. *The Force of Ciliary Motion.* H. P. BOWDITCH, M.D. (*Boston M. and S. Jr.*, Aug. 10, 1876.)

After referring to the experiments of Valentine, Engelmann and Calimburces, demonstrating the power of the cilia to move very light bodies, B. describes the experiment of Prof. Wyman with heavier bodies. W. stretched, in a horizontal position, a patch of mucous membrane from the frog's mouth, previously dissected up, and having securely fixed it, he constructed a load, the under surface of which was made of fresh frog's skin, taken from near the throat. The rate at which this load was moved by the cilia was carefully noted, and with different sized weights. "A weight of 1.3 grammes was carried 15 m. m. in about one minute, the weight resting on a surface 12 m. m. square; and 48 grammes, resting on a surface 14 m. m. square," was moved but very slowly.

B. undertook to demonstrate the limit of the force capable of being exercised by cilia, and for the purpose arranged his experiments so as to compel the weight to be carried, instead of on a horizontal surface, up an inclined plane. "Then the product of the weight, by the height through which it was lifted, would give the value sought." This embodied the only essential modification of Wyman's experiments.

He took observations with the ciliated membrane inclined so as to make a grade of 10 per cent., afterward with the membrane vertical and with weights upon a base of 1.437 square c. m. of 5, 10 and 20 grammes "placed successively upon a vehicle weighing 0.534 gramme." The results, in brief, of his study show that the cilia on one square centimeter (4-10 inch square) of surface are capable of performing in one minute an amount of work equal to the lifting of 6.805 grammes (over 100 grs.) of weight through a height of one millimeter (1-25 inch). He concludes "the ciliated cells perform in one minute an amount of work equal to lifting their own weight to the height of 4.253 meters," ( $167\frac{1}{3}$  inches.)

An idea of the rapidity of motion may be gained by noting that with the ciliated membrane vertical, and the weight about half a gramme (7 grs.), the rate at which the body was moved would have carried it through one inch of space in about two minutes and five seconds.

## VI. PRACTICAL MEDICINE.

1. *Disorders of the Vascular System in Burns.* COUSTOU. (*Jour. de Méd. et de Chir.*, May, 1876.)

These are less common than the attacks of pleurisy, bronchitis, pneumonia and enteritis, so often observed as complications of burns, but are equally interesting. The accidents referred to are phlebitis and the formation of clots in vessels, due to alterations in the fluidity of the blood. Where burns are extensive and accompanied by extensive phlyctenular eruption, an enormous quantity of serosity is withdrawn from the blood, which thus becomes thicker and more readily coagulable. This also accounts for the tendency to syncope in these severe cases. C.'s observations (service of Professor Verneuil) were all of extensive burns of the trunk. In the first case, after five weeks, there was œdema of the left leg, and a hard, resisting cord could be felt along the line of the femoral vessels in the thigh. Phlebitis of the femoral and external iliac veins was discovered, *post mortem*. In a second patient, six weeks after injury, when the wound was progressing to cicatrization and the general health was fair, there occurred phlebitis of the femoral vein and erysipelas, followed by recovery. Eleven days after the burn received by a third patient, there was complete hemiplegia and hemianæsthesia of the entire right side of the trunk, supposed to be due to temporary obliteration of the sylvian artery by a coagulum. In this case the right side of the head and face was similarly affected.

2. *A Case of Acute Fibrinous Bronchitis with tube casts.* E. D. WORTHINGTON, M.D. (*Canada Med. and Surg. Jour.*, June, 1876.)

The patient was a stout English woman, forty-one years old, and the mother of thirteen children, the youngest only three months old. She had for several days, with slight symptoms of fever, "labored respiration." Suddenly she was attacked with severe dyspnea and violent paroxysms of coughing, with pain in the chest, great distress of countenance, and a livid hue of the skin. She soon succeeded in expectorating a mass of tube casts of the bronchi as large as a tablespoonful. "In a few hours another paroxysm of coughing ended in more expectoration of tube casts, the disappearance of the cyanosis, and most marked relief to the patient." The patient recovered. "Some of the larger specimens had a diameter at the base of fully three-eighths of an inch;" they were cylindrical, white or pearly color, with a few delicately colored pink spots. One mass had twenty-eight terminal branches, and was four and one-half inches long. The patient continued to cough up casts for two months, notwithstanding she recovered her general health, so that at the end of this time she was able to make a journey to England. Dr. W. says this is so rare an affection that "of acute, fibrinous bronchitis, with fibrinous expectoration, Lebert could find but seventeen observations, after a careful analysis of all the cases known at the time of writing." Each cast consisted of a number of

laminae, arranged concentrically, those in the center being folded and involuted. Under an objective of five hundred diameters the laminae were translucent and structureless; the spaces between them were filled with fine fibrils of fibrine and innumerable leucocytes.

3. *Rare case of Gall Stones discharged through the side.* D. PERLEY, M.D. (*Boston Med. and Surg. Jour.*, June 22, 1876.)

The patient, a male, was seventy-six years old. He had had frequently pain in the region of the liver, and in 1869 an abscess formed in this locality, with great systemic disturbance. The cavity was opened and discharged pus and dark matter; in a month gall stones began to be discharged. The discharge of the stones continued with "volcanic irregularity of rest and activity" till December, 1873, since which time there had been no discharge. The patient's health had greatly improved.

4. *The Menses in Phthisical Patients.* LADMIRAL. (*Lyon Médic.*, No. 22.)

Menstruation and evolution are two distinct and yet closely allied functions; hence the possibility (and this is not unfrequently noted) of conception by a woman whose menstrual flow has disappeared under the influence of a general disease.

Ordinarily the suppression of the menstrual flow, in a woman who coughs and becomes emaciated, is a symptom which points to the rapid evolution of pulmonary tuberculosis. In a large number of patients the catamenial function is suspended at the same time that the disorder of the lungs is advancing; there are rarer cases where the amenorrhœa precedes the habitual manifestations of the diathesis. It is this fact which leads some to look to the uterus for a lesion which does not exist. Hence, *always when there is menstrual suppression without appreciable cause, and when pregnancy cannot be considered possible, physicians should carefully examine the chest and give a reserved diagnosis.* The menstrual flow, however, has no influence upon the march of pulmonary phthisis; but its reappearance always coincides with a period of arrest or cure of the disease (temporary or permanent), and is a proof of the fair condition of the constitution.

Dr. Mollière, in reviewing L admiral's treatise, concludes that the author has not been sufficiently explicit on this point, viz.: whether the existence of pregnancy should be admitted or denied when these variations in the menstrual function occur. It is often true that women who are profoundly affected are also apt to conceive; and, *per contra*, certain general symptoms may co-exist with amenorrhœa, and lead to a suspicion of the early stage of a pregnancy which does not exist.

5. *The Abortive Treatment of Whooping Cough by Sulphate of Quinine.* R. K. HINTON, M.D. (*Med. and Surg. Reporter*, Aug. 26, 1876.)

Dr. H. reports ten cases in which this treatment was successful. The ages of some of the patients are omitted in the report, but we gather that the range of their ages was at least from eighteen months to twenty-four

years. The doses given were one to five grs. every three to six hours, according to age and severity. In all the cases the pertussis was aborted, the period required varying from a few hours to a week.

Unfortunately, the doctor does not state whether he has had any cases of failure of this treatment, and if he has, how many. The value of his observations are very much lessened by this omission. In order to give children quinine without their tasting or afterward vomiting it, he has the doses rolled up in wafers. A wafer is moistened, to make it soft, and then placed in a spoon nearly full of water; the spoon is reached far back upon the tongue, and its contents emptied into the throat; the wafer is swallowed as readily as the water. "The smallest child can swallow the wafer and retain the quinine without vomiting."

## VII. SURGERY.

### 1. *Fracture of the Base of the Cranium.* VOLTOLINI. (*Monatschr. für Ohrenheilk.*, No. 1, 1876.)

The author concludes, from a review of published cases, that where the encephalo-rachidian fluid escapes—and especially when the result is favorable—the liquid does not proceed from the sub-arachnoid space, but from fracture of the labyrinth. If the liquid were cephalo-spinal there must have been necessarily a rupture of the dura-mater (a dangerous lesion of this organ), and the opening would remain patulous, permitting the escape of liquid for a considerable time. This cannot occur without the concomitant of serious symptoms of inflammation of the meninges, as in the first three cases reported. If a rupture of the dura-mater happens, there are two passages by which the liquid can reach the external auditory conduit, viz.: by the vault of the tympanic enclosure, the enclosure itself, and then through the membranum tympani; or the fissure may involve the promontory, when, if the arachnoid and dura-mater are both torn, the labyrinthine and encephalo-spinal liquids escape together.

We do not know the rapidity with which the labyrinthine liquid can be reproduced, so when a large amount of a liquid is discharged by the ear it cannot be determined whence it comes. Voltolini believes that the cases of Birkett, Heath and Morris, which resulted in a cure, were instances of labyrinthine fracture; and to prove that the labyrinth may become the site of a grave lesion without serious encephalic complication, he cites the cases of labyrinthine necrosis and otitis in which all alterations were noted as limited to situations external to the cranial cavity.

The practical inference is: always examine with care the condition of the sense of hearing in an injured individual.

### 2. *Traumatism by the bite of Horses.* TILLAUX. (*La France Méd.*, No. 43.)

The author of the paper read by Tillaux (M. Gillette) before the Société

de Chirurgie had made sixty-six observations, in fifty of which the superior part of the body was injured by the bite of the horse. The animal is generally not content with seizing the part attacked between the jaws, he exercises more or less pressure upon it, or raises the individual from the earth, so as to tear and strip the tissues. We have then, generally, either pressure or tearing. Two ecchymotic arcs are characteristic of the bite by pressure.

The parts which are bitten and torn are not all alike. There may be produced a section as complete as if done by a cutting instrument. Thus, in one case, a horse tore off the finger of a soldier, after having made so clean a cut that the man was accused of self-mutilation.

The accidents caused by horse bite are of various sorts. In three cases tetanus occurred. In three others a curious fact was noticed: in consequence of contusion of the nerve in its canal, there resulted paralysis and permanent loss of power in the upper limb. Prognosis should be guarded in such cases, for from the cutaneous symptoms alone the injury to deeper parts cannot be determined.

The treatment consists in making free openings, but Gillette employs also the actual cautery. There is a question to be solved, whether the saliva of the horse does not contain a virulent principle.

3. *On the Treatment of In-growing Toe Nail.* BERTHERAUD. (*Gaz. Méd. de l'Algérie — Revue de Thér. Méd. Chir.*)

The author, after fully describing the disorder and discussing Dupuytren's sole remedy—complete avulsion of the nail—suggests the following procedure: The in-growing portion of the nail is first torn or cut away, according to the circumstances of each case, and then the fleshy part in which it was buried is covered with a disk of plaster, having a central perforation. Upon this central opening is placed a layer of Vienna paste, which thus destroys just enough of the inflamed surface, without causing too great a loss of substance. When the eschar falls it leaves an excavated wound, whose depression is increased later by the cicatricial retraction. When the nail grows again there is nothing to arrest its lateral expansion—it passes over the retracted tissues. The cure is perfect, and there is no relapse.

(A better, because it is a simpler, method has been devised, by Dr. Frank Hamilton, we believe, which accomplishes the same end. The nail is left undisturbed; but the point of a bistoury is passed along that part which is buried in the flesh, and, with a single sweep, all the soft tissue is removed beyond the nail border. Thereafter, the result is that given above. The cicatrix prevents the reformation of the granulating spongy mass, and the nail grows downward over it.—Ed.)

4. *New Method of Staphylorrhaphy.* SCHOENBORN. (*Arch. f. Klin. Chir. XIX.—Centralbl. f. Chir.* 21, 1876.)

In order to remove the nasal sound of the voice which remains even after a successful uranoplasty and staphylorrhaphy, Sch. suggests the insertion,

between the two halves of the soft palate, of a flap taken from the posterior wall of the pharynx. Sch. advises by the first operation to unite this pharyngeal flap with the soft palate, and after this union is established to close the fissure of the hard palate by a second operation. In regard to the formation of the pharyngeal flap he says: "After paring the edges of the cleft of the soft palate, one cuts out, with a scalpel having a long stem, an oblong flap in the posterior wall of the pharynx. The flap is cut from below upwards, with its basis below and its triangular-shaped apex as high up as possible, and is taken pretty thick; well dissected off from the subjacent structures, it is fastened to and between the halves of the cleft velum palati by means of sutures." Sch. has performed this operation on a girl aged seventeen years. Immediately after her recovery her speech was clear and easily intelligible; the nasal sound had not disappeared entirely yet, but it grew less from week to week. There was no difficulty in deglutition or in breathing through the nose.

### VIII. OPHTHALMOLOGY AND OTOTOLOGY.

1. *The Injurious Effects of the Nasal Douche.* DR. HENRY L. SHAW.  
(*Boston Med. and Surg. Journal*, 1876, No. 23.)

For many years aurists have considered the treatment of nasal catarrh with the douche as attended with serious danger, this danger being the flooding of the Eustachian tubes and passing of liquid into the tympanum, thereby causing inflammation of that organ with all its sequelae. As early as 1869 Dr. Roosa speaks of the danger of the douche, and in an article published in the "Archives of Ophthalm. and Otology," Vol. II., he has collected from various sources sixteen cases in which results more or less serious followed its use. Dr. Pardee (in *New York Med. Gaz.*, Vol. VI.) reports several cases in which acute aural inflammation was caused by it. Other cases have been reported, the etiology of which cannot be doubted, all tending to show its injurious effects. The opinion that the employment of the douche should be discountenanced by the profession, is now quite generally accepted by aurists. Dr. S., however, is inclined to believe that the use of the nasal syringe, also, and all other appliances for flooding the nasal cavity, is attended with some risk, and that it is not even necessary for liquids to enter the tympanum to produce harm. In support of this opinion eighteen cases of injury are presented, in sixteen of which it was from the nasal douche and syringe, in one from the forcing of liquid into the tympanum by the Valsavian method, and in one from the snuffing of liquid into the nostrils. In five cases there was acute otitis media, with perforation of the drum-head, from the douche. In five there was acute otitis media, without perforation of the drum-head, from the douche. In two there was subacute otitis media, without perforation of the drum-head, from the douche. In one there was increase of chronic otitis media from the douche. In one there was acute otitis media, without perforation of

the drum-head, from the syringe. In one there was subacute otitis media, without perforation of the drum-head, from the syringe. In one there was acute otitis media, with perforation of the drum-head, from snuffing liquids into the nostrils. In one there was subacute otitis media in one ear, and formation of polypus in the other ear, from forcing liquids into the tympanum by the Valsavian method.

2. *Artificial Atrophy of the Eyeball.* S. VIDOR AND N. FEUER. (*Memorabil.*, xxi., 2.)

Græfe, we believe, was the first who suggested, in certain deformities of the eye, the attempt to induce a partial and gradual shrinkage of the eyeball by passing a thread through the posterior half of the eyeball. This thread is left in situ until the necessary inflammation in the tissues of the eye is started, to insure the subsequent atrophy. The final object of this procedure is the obtaining of a serviceable stump which is better adapted for the support of an artificial eye than the socket which is left after the enucleation of the eyeball.

Vidor (*Jahrb. f. Kinderheilk*) reports three such cases. The first case was an hydrophthalmus in a boy five years old. The globe was greatly expanded in all directions; the cornea was hazy and the sclerotic was very thin; cause, unknown; perception of light, none. A thread was put through the eyeball behind the ciliary ring and from one side of the sclerotic to the other. But for twelve days the presence of the thread was so well tolerated that the doctor moved it to and fro several times in order to produce more irritation. Three days later pus appeared behind the cornea; the thread was removed; a copious discharge of pus took place, and from the seventh day after removing the thread the suppuration subsided. Within one month the eyeball had shrunken to half the normal size, and was free of all irritation.

In the second case (staphyloma of cornea and sclerotic) the thread remained in the eyeball for seven full weeks without producing any violent reaction. The eyeball, however, began to get softer and smaller after the fifth day, and finally the thread had to be withdrawn for fear the ball would shrink too much.

The third eye also showed a great indifference for the thread, and did not secrete any pus until the thread had been pulled upon intentionally; still it had to remain in the eye six weeks.

Compared with these observations, Feuer's nine cases (*Pester med. chir. Presse*) are interesting for the short time during which the thread remained in the eyeball; the longest period being thirty-six hours, and the shortest four hours. The thread was removed as soon as the ocular conjunctiva became oedematous.

In three cases the reaction was moderate, and the globe shrank to the desired degree. In the other cases the reaction was more violent, and in some the inflammation induced by the thread assumed the character of a true panophthalmitis, though the thread had been left in the eye but a few (5, 10, 13) hours.



# ANNOUNCEMENTS FOR THE MONTH.

## MONDAYS. SOCIETIES.

*Mondays, Oct. 2 and 16.*—Chicago Medical Society. Regular meetings.

*Mondays, Oct. 9 and 23.*—Chicago Soc. of Physicians and Surgeons. Regular meetings.

## CLINICS. Every Monday.

At Eye and Ear Infirmary, 2 p. m.—Prof. Holmes.

At Central Dispensary (Wood and Harrison sts.), 2 p. m. *Gynecological*—Dr. Adolphus; 3, *Medical*—Dr. Bridge; 3, *Dermatological*—Dr. W. J. Maynard.

At Mercy Hospital, 2 p. m. *Medical*—Prof. Johnson.

At Chicago College, 2 p. m. *Gynecological*—Prof. Merriman.

## LECTURES. Every Monday.

At Rush Medical College (Harrison and Wood sts.)—9¼ to 12¼ o'clock, Profs. Freer, Lyman and Powell; 4 to 6, Profs. Gunn and Haines. At Chicago College—8¼ to 12¼, Profs. Jewell, Hyde, Hatfield and Bond; 3 to 6, Profs. Nelson and Davis, Quine and Andrews, and Roler.

## TUESDAYS. SOCIETIES.

*Tuesday, Oct. 10.*—Academy of Science. Regular meeting at 8 p. m. (263 Wabash av.)

*Tuesday, Oct. 26.*—Medico-Historical Society. Regular meeting, 8 p. m.

## CLINICS. Every Tuesday.

At County Hospital, 2 p. m.; *Medical*—Prof. Ross. 3 p. m.; *Surgical*—Prof. Powell.

At Mercy Hospital, 2 p. m.; *Medical*—Prof. Hollister.

At Chicago College, 2 p. m.; *Gynecological*—Prof. Roler.

At Central Dispensary, 2, *Surgical*—Dr. Graham. 2, *Diseases of Chest*—Dr. Ingals.

## LECTURES. Every Tuesday.

At Rush College—9¼ to 12¼, Profs. Miller, Allen and Parkes; 4 to 6, Profs. Gunn and Haines. At Chicago College—8¼ to 12¼, Profs. Jewell, Quine, Merriman and Bond; 3 to 6, Profs. Davis and Nelson, Andrews and Hatfield, and Byford.

## WEDNESDAYS. CLINICS. Every Wednesday.

At County Hospital—2 p. m., *Gynecological*, Prof. Fitch; 2 p. m., *Ophthalmological*, Dr. Montgomery.

At Chicago College—2 p. m., *Gynecological*, Prof. Nelson.

At Mercy Hospital—2 p. m., *Surgical*, Prof. Andrews.

At Central Dispensary—2 p. m., *Gynecological*, Prof. Etheridge; 3 p. m., *Medical*, Dr. Bridge; 3 p. m., *Dermatological*, Dr. Maynard.

## LECTURES. Every Wednesday.

At Rush College—9¼ to 12¼, Profs. Freer, Allen and Parkes; 4 to 6, Profs. Etheridge and Haines. At Chicago College—8¼ to 12¼, Profs. Hyde, Isham, Hatfield and Bond; 3 to 6, Profs. Davis and Nelson, Quine and Jones, and Roler.

## THURSDAYS. CLINICS. Every Thursday.

At Mercy Hospital—2 p. m., *Medical*, Prof. Johnson.

At Rush College—2 p. m., *Medical*, Prof. Ross; 3 p. m., *Diseases of the Nervous System*, Prof. Lyman.

At Chicago College—2 p. m., *Gynecological*, Prof. Merriman.

At Central Dispensary—2 p. m., *Surgical*, Dr. Graham; 2, *Diseases of Chest*, Dr. Ingals.

## LECTURES. Every Thursday.

At Rush College—9¼ to 12¼, Profs. Miller, Allen and Parkes; 4 to 6, Profs. Gunn and Etheridge. At Chicago College—8¼ to 12¼, Profs. Hollister, Isham, Merriman and Bond; 3 to 6, Profs. Davis and Nelson, Andrews and Hatfield, and Byford.

## FRIDAYS. SOCIETIES.

*Friday, Oct. 13.*—State Microscopical Society of Illinois. Regular meeting, 8 p. m.

## CLINICS. Every Friday.

At County Hospital—2 p. m., *Medical*, Prof. Ross; 3 p. m., *Surgical*, Prof. Powell.

At Mercy Hospital—2 p. m., *Ophthalmological*, Prof. Jones.

At Chicago College—2 p. m., *Gynecological*, Prof. Roler.

At Central Dispensary—2 p. m., *Gynecological*, Dr. Adolphus.

## LECTURES. Every Friday.

At Rush College—9¼ to 12¼, Profs. Freer, Allen and Parkes; 4 to 6, Profs. Gunn and Holmes. At Chicago College—8¼ to 12¼, Profs. Hollister, Isham, Hatfield and Bond; 3 to 6, Profs. Davis and Nelson, Jones and Quine, and Roler.

## SATURDAYS. CLINICS. Every Saturday.

At Chicago College—2 p. m., *Surgical*, Prof. Andrews or Isham; *Gynecological*, Prof. Nelson; 3 p. m., *Medical*, Prof. Davis.

At Rush College—2 p. m., *Surgical*, Prof. Gunn.

## LECTURES. Every Saturday.

At Rush College—9¼ to 12¼, Profs. Miller, Lyman and Etheridge. At Chicago College—8¼ to 11¼, Profs. Hollister, Quine and Hyde; 3 to 6, Profs. Curtis, Andrews and Quine and Byford.

At all the above named Clinics visiting regular practitioners are, we believe, admitted.

At the South Side Dispensary (Chicago College) there are six daily special Clinics, for sections of the classes of the Chicago College.

[The schedule of the Woman's Medical College had not been received on going to press.—Ed.]